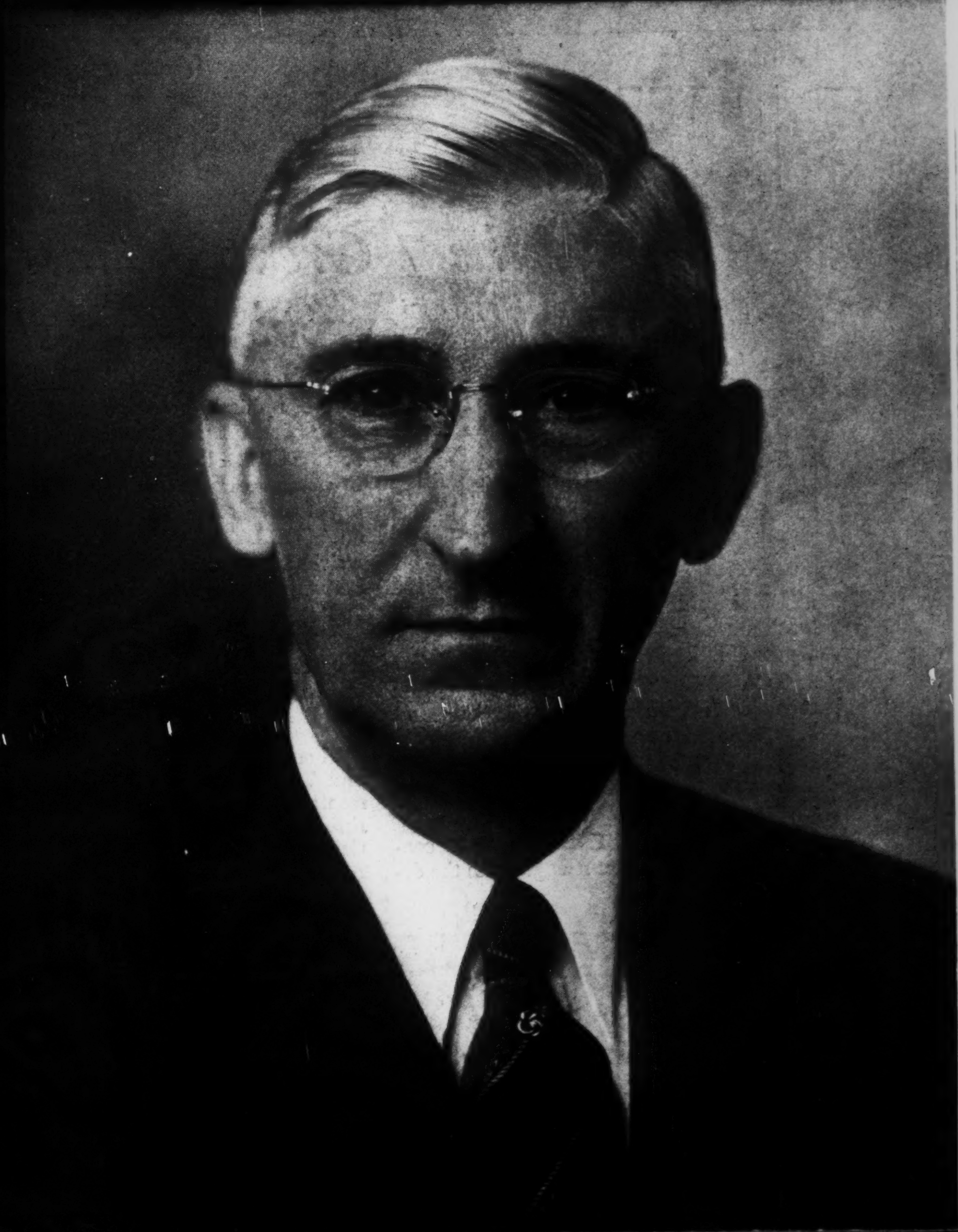
ENGINEERING NEWS-RECORD



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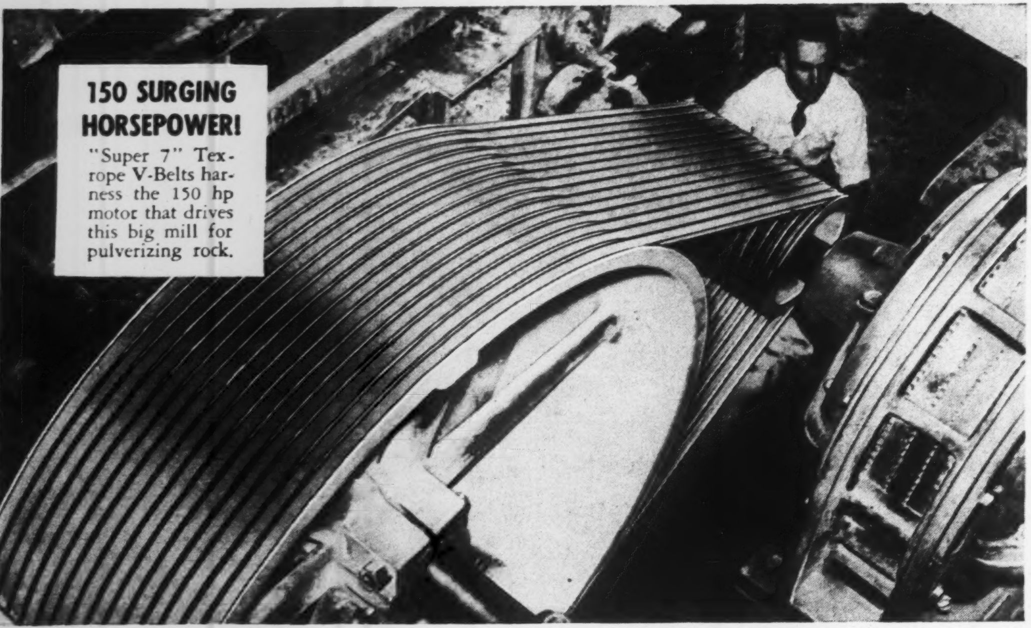

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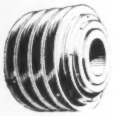

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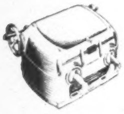

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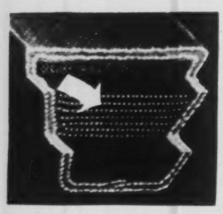

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News of the Week

ENGINEERING NEWS-RECORD • JANUARY 16, 1947 • VOLUME 138 • NUMBER 3

President asks $1.4 billion for 1948 U. S. construction

Budget message urges postponement of all deferrable public works, but asks more money than requested for last year—PRA to receive $300 million

A total appropriation of about $1,400,000,000 for construction and planning during the fiscal year 1948—which begins July 1, 1947—was recommended by President Truman in his annual budget message to the Congress, submitted Jan. 10.

The construction appropriation would be part of a general $37,500,000,000 allocation of funds for operation of all phases of the national government.

Although Mr. Truman, in a statement accompanying the 1,434-page document giving a breakdown of proposed federal expenditures, urged that all possible deferrable public works be put over for later consideration, the construction section of his budget actually asked $325,000,000 more than was proposed for the 1947 fiscal year (*ENR* Jan. 31, 1946, vol. p. 147).

The five largest single appropriations recommended were for the Public Roads Administration, for which $300,288,854 was asked; the Corps of Engineers, which would get $291,600,000 for flood control, rivers and harbors, the Panama Canal and other work; the Department of Agriculture, which would get $274,300,000 for rural electrification and forest roads and trails; the Department of the Interior, whose various agencies (including the Bureau of Reclamation) would get a total of $149,535,000, and $250 million for the Atomic Energy Commission, half of which will go for construction work it was said.

(*See p.* 3 *for quick summary*).

The large appropriation for the Public Roads Administration includes a $10,288,854 fund to meet previous obligations for work on the federal aid system. Under the 1944 highway act, a total of $500,000,000 was authorized for the fiscal year 1948, and of this total, $225,000,000 is earmarked for projects on the federal-aid primary system, $150,000,000 for secondary and feeder roads, and $125,000,000 for urban projects. Congress is obligated to appropriate the entire $500,000,000 if this proves desirable, but the $279,000,000 requested is expected to be adequate to meet obligations.

No military construction

The appropriations for the Army Engineers include no funds for military construction. It is expected that money for this type of work will be requested at a later time.

Similarly, although the Navy's Bureau of Yards and Docks is listed to receive $144,700,000, none of this money is to be used for new construction but rather for maintenance operations. Like the War Department, the Navy expects to make requests for new construction money at a later date.

The Civil Aeronautics Administration also is not covered in the budget recommendations, although it has already outlined a program for the expenditure of a $33,899,265 fund already available for starting the work of improving some 800 airfields in the coming year (see page 9 this issue). Once its needs are better known, CAA, too, is expected to make requests for additional money.

Hospital aid requested

Because of the contractual authority and previous appropriation of nearly $700,000,000 for the Veterans Administration's hospital program, only $29,800,000 is requested for this purpose at this time.

Additionally, Mr. Truman asked that $50,965,000 be allotted to the U. S. Public Health Service for a civilian hospital program to be carried out under its supervision. Of this amount, $50,000,000 will be spent as grants to states for civilian hospital construction, and the remainder for administrative

(*Continued on page* 2)

***Davis Dam Work Pushed**—Work is ahead of schedule, engineers report, on the $46,000,000 earth-and-rock-fill Davis Dam on the Colorado River, near Kingman, Ariz. The dike along the diversion channel and a part of the cofferdam are shown above. Utah Construction Co. is general contractor.*

NEWS IN BRIEF

In telegraphic form, here are latest news developments on the engineering and construction front during the week.

Construction—A building program of over $30,000,000 has been recommended to the *Washington* State Legislature by Gov. Mon C. Wallgren—$20,000,000 for state institutions and $10,000,000 for a state building in *Seattle* . . . The Co-op Refining Co. plans to start work at once on a $1,000,000 oil refinery addition at *Coffeyville, Kan.* . . . Methodist Hospital, *Peoria, Ill.*, plans to double its 200-bed capacity at a cost of $1,800,000 . . . Metropolitan Building Co. proposes to build two large skyscrapers at *Seattle, Wash.* . . . Weyerhaeuser Timber Co. has started work on a $1,000,000 plywood plant at *Longview, Wash.* . . . Montgomery Ward & Co. intends to build a $2,500,000 warehouse on a 14 acre site at *Portland, Ore.* . . . The *Seattle* "Post-Intelligencer" has awarded a contract to Howard S. Wright & Co. for a $2,500,000 newspaper plant. . . . Washington State College, *Pullman*, is receiving bids for three buildings estimated to cost $3,000,000. . . . A $17,000,000 contract has been awarded by the Philadelphia Electric Co. to the Dravo Corp. for construction of two electric generating units at its plant near *Norristown, Pa.* About $4,000,000 will be spent this year. . . . Sears, Roebuck & Co. will build a million-dollar shopping center at *Charlotte, N. C.* . . . McCloskey & Co., Philadelphia, Pa., was the lone bidder at $3,378,000 for alterations to the House and Senate buildings at *Washington, D. C.* . . . *Cleveland, Ohio*, has employed Burns & McDonnell, Kansas City, Mo., to prepare plans and specifications for a $6,600,000 expansion of the city's light plant. . . . Decision regarding construction of a new $3,000,000 statehouse for Arizona is up to the legislature. . . . Construction of the nine buildings for the $40,000,000 plant of the Celanese Corporation of America at *Rock Hill, S. C.*, will be started soon by the Daniel Construction Co. of Greenville, S. C. . . . The University of Washington has received approval for ten building projects at *Seattle* to cost $9,207,000, including a health center and an electrical engineering building. . . . There are plans for a $2,500,000 ocean front hotel at Sunny Isles near *Miami, Fla.* . . . Plans are being made for a 27-story tower addition to the Hotel Muehlebach in *Kansas, Mo.* . . . Approval has been received for a million dollar telephone exchange at *Lexington, Ky.*

Housing—A $5,000,000 suburban subdivision, Buffalo Oaks, has been started at *Houston, Tex.* . . . Bermark Construction Co. will build a $1,200,000 development at *Hatboro, Pa.* . . . Contract for a $4,500,000 apartment house project at *Seattle, Wash.*, has been awarded by the Lake Burien Heights Holding Corp. to Nettleton & Baldwin . . . During 1947, Morebilt Homes, Inc., will build $1,736,000 worth of apartment houses and single dwellings at *Charlotte, N. C.*

Sewers and water supply—Tests will be made to see to what extent the present sewage disposal system of *El Reno, Oklo.*, needs to be enlarged . . . A disposal project planned for *Portland, Ore.*, will cost $14,388,000 instead of the $12,000,000 approved by voters in 1944, engineers report. . . . A $550,000 town water system extension at *Yarmouth, Mass.*, is nearing completion . . . Studies to determine rate boosts for water and sewerage services outside of the city limits are being made at *Phoenix, Ariz.* . . . *Greenwood, S. C.*, has executed a contract at $262,000 for a sewage disposal plant to be built within 360 days.

Highways—*Winnebago County, Ill.*, will undertake an $839,000 highway construction and improvement program this year . . . *Seattle, Wash.*, will build a $3,445,000 viaduct on Alaskan Way . . . Six miles of Route 6, *Cape Cod, Mass.*, will be reconstructed this year at a cost of $600,000. . . . *Toledo, Ohio*, is asking engineer Harland Bartholomew to decide whether the downtown transverse of the proposed interregional highway system shall follow the river front or a midtown cross-route . . . Mayor C. E. Slusser of *Akron, Ohio*, reports that the city has good prospects for a $30,000,000 program of express highways and bypasses around bottlenecks. . . . Insurance problems are delaying reconstruction of the *Tacoma Narrows, Wash.* suspension bridge . . . An ambitious proposal designed to revolutionize the entire highway system of *Minnesota*—by having the state take over building, upkeep and control of all roads—county, township and even within municipalities—is to be included in a series of measures to be placed before the 1947 legislature.

Ask $1.4 billion construction budget

(*Continued from page* 1)

purposes. An additional $2,250,000 is also asked for construction of research facilities by the USPHS.

Housing funds small

Requests for funds for federal agencies dealing with housing were kept to comparatively small figures. Actual construction work will be done out of a fund of $8,300,000 requested as aid for low-rent permanent housing. An appropriation of about $12,400,000 is sought for the administration work of the Housing Expediter, but no construction will be carried out with this fund. In addition, the Congress was asked to extend the time for the federal agencies to utilize funds previously appropriated for guaranteed markets for prefabricated homes and premium payments for increased production of materials.

Other miscellaneous requests for funds include the following:

Tennessee Valley Authority, $32,585,000; Bonneville Power Administration, $15,578,000; Southwestern Power Administration, $1,000,000; National Advisory Commission for Aeronautics, $2,400,000; Federal Security Agency (for Howard University, Wash., D. C.) $2,243,250; Bureau of Community Facilities (for work in the Virgin Islands) $3,006,205; International Boundary and Water Commission (for work along the U. S.-Mexico Border) $8,000,000.

The appropriations asked for the Bureau of Reclamation included: $27,500,000 for the Columbia River Basin; $20,000,000 for the Central Valley Project in California; $14,000,000 for the Colorado-Big Thompson development in Colorado; $18,000,000 for Davis Dam on the lower Colorado River; $23,000,000 for Missouri River Basin work; and $4,500,000 for the Hungry Horse project in Montana.

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Messages urge slowing public works; restudy of use as economic stabilizer

President's budget and economics reports see programs overrated as stabilizing factor—More highway work sought

In two separate messages to the Congress concerning the economic status of the nation last week, President Truman cautioned against dependence on national public works programs to stabilize the economy.

His messages—an economic report delivered Jan. 8 and the budget message of Jan. 10—also called attention to the rapid deterioration of the nation's highways, reiterated that the new year's housing program is now in the hands of private industry, and urged a slightly expanded rivers and harbors program to catch up the slack of deferred work.

Discussing public works programs in his economic report, Mr. Truman pointed out that large aggregate expenditures for public works have led in recent years to an "overemphasis" upon the prospects of stabilizing the national economy through bold use of public works.

Cannot do job alone

"There are valid reasons why public works cannot accomplish as much . . . as some have supposed," the chief executive said. "In the event of severe unemployment, they cannot be generated in sufficient volume to avoid supplementation by other means, and in a period of mild recession, they cannot be generated in time to be fully effective for the purpose desired.

"If the tempo of the public works program is geared to some business index, the reserves accumulated for emergency use may be used after they are needed—and then bcome inflationary, rather than stabilizing influences. Even if advanced preparations are made, through the preparation of plans, the acquisition of sites and the accumulation of funds, there will be an inevitable time lag between calling the emergency program into operation and the employment of men on the job.

Must stabilize program

"The chief lesson to be learned (from experience) is that no one device constitutes an adequate safeguard against a recession . . . or a depression. All useful devices need to be thought through in advance, and blended into a consistent program."

"Instead of regarding public works as the first and foremost device to restore our whole economy when it sags," the President continued, "we should attempt to stabilize public works construction according to our long-term needs. Increasing regularization of public works expenditures . . . over a long period will offer assurance . . . of stabilizing that segment of the business world."

In his budget message, Mr. Truman reinforced this statement with the caution that public works programs, wherever possible, should be deferred for some time, to avoid competition for materials and labor with the needs of private industry.

The President also utilized his budget message to call for an expanded highway construction program, on the ground that the nation's highway system has fallen behind standards "which should prevail under rapidly increasing traffic." He commented also that airport facilities are "far from adequate" and called for expanded work.

Commenting on other phases of the nation's economy, he said that aid by the Federal Works Agency to local public works planning groups will be virtually completed during the 1948 fiscal year, and said that the output of building materials is now increasing so rapidly that Reconstruction Finance Corporation-guaranteed loans and premium payments can soon be ended.

PRINCIPAL BUDGET RECOMMENDATIONS FOR CONSTRUCTION

Public Roads Administration—Total recommended $300,288,854. Includes: $279,000,000 for federal aid under Highway Act of 1944; $5,000,000 for grade crossing elimination; $3,000,000 for secondary roads; $3,000,000 for highways on public lands.

Department of Agriculture—Total recommended $275,300,000. Includes: $250,000,000 for the Rural Electrification Administration for power lines and facilities; $23,800,000 for forest roads and trails; $500,000 for flood control.

Army Engineers—Total recommended $291,600,000. Includes: $152,584,000 for general flood control; $24,000,000 for flood control on Lower Mississippi; $1,000,000 flood control on Sacramento River; $4,000,000, advance planning; $3,500,000 for surveys and examinations; $3,272,000 maintenance and repair; $101,994,000 for Rivers and Harbors work; $750,000, Panama Canal.

Atomic Energy Commission—Total recommended $250,000,000. Includes: construction of three laboratories.

Bureau of Reclamation—Total recommended $138,252,000. Includes: $130,942,000 for general construction; $5,000,000 for general investigations; $1,810,000 for investigations in the Missouri Valley; $500,000 for Colorado River development fund.

Tennessee Valley Authority—Total recommended $32,585,000.

Veterans Administration—Total recommended $29,800,000.

Geological Survey—Total recommended $12,250,000. Includes: $8,500,000 for topographic surveys and mapping; $3,750,000 for gaging streams.

National Parks Service—Total recommended $5,000,000 for roads, parkways and other construction.

Public Buildings Administration—Total recommended $4,950,000. Includes: $2,750,000 for hospital center in District of Columbia; $1,250,000 for a heating plant for federal buildings in District.

National Housing Agency—Total recommended $8,300,000.

District of Columbia—Total recommended $18,597,600. Includes: $5,285,000 for highway work; $3,578,000 for additional construction of the Washington aqueduct.

DEVELOPMENTS BEYOND U. S. BORDERS

Digested from reports by Engineering News-Record correspondents and the McGraw-Hill World News Bureau

France will buy $38 million worth of equipment for reconstruction —Mexico discloses plans for irrigation and power—Revive Mont Blanc tunnel scheme—British plan Europe's longest suspension span

France—A detailed 4-year modernization program for France announced recently by the Plan Commissariat, calls for a large-scale program of housing and public works carried out with new construction equipment—an appreciable proportion of which will be bought abroad.

Government officials estimated that about $38,000,000 worth of equipment will be ordered in addition to orders already placed. Besides, the French electrical industry's construction program will involve purchases—chiefly in the United States—of large power shovels and other earth-moving equipment.

Total new construction through 1950, as outlined by the reconstruction program, will come to about $10,000,000,000. Equipment to be purchased includes 46,000 trucks, 24,000 concrete mixers, 2,500 cranes, 300 scrapers and 30 draglines.

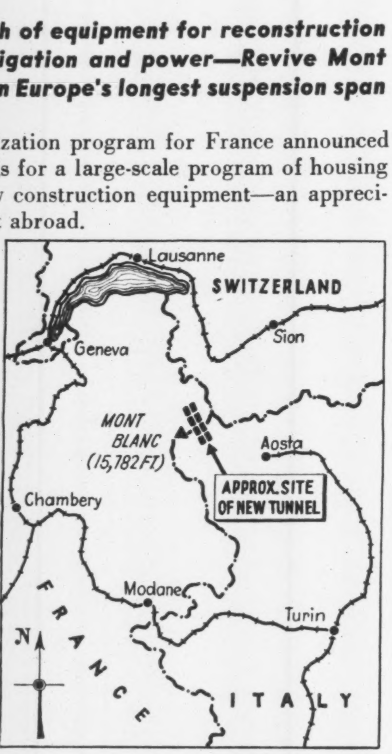
In the field of power production, two major projects now under way are the Genessiat project on the Rhone River (*ENR* Sept. 26, 1946, vol.p. 403), which was started in 1938, interrupted by the war and is now scheduled for completion in 1948; and the Donzere-Mondragon canal project on the lower Rhone. This latter project, located above Avignon, will take advantage of a 75-ft. drop in ground level, and is expected to yield about a billion and a half kwh. annually by 1951.

Numerous other projects already under way or on the point of starting are expected to bring the nation's hydropower production output to 9.6 billion kwh. annually by 1951—a 60 percent boost over present levels.

Emphasize reconstruction

In the field of building construction, the first task will be the rebuilding or replacement of some 1,500,000 structures totally or partially destroyed during the war. In housing, standardization of types, prefabrication and use of developments new to France, such as plasterboard, cement tile and terrace roofs will be employed.

Certain other reconstruction projects are also planned, such as building of a pipeline from LeHavre to Paris to carry fuel oils; and construction of some 7.5 mi. of new subway tunnels in Paris itself. Railroads estimated they would spend about $450,000,000 on new construction alone in the 4-year period.



***Controversial Tunnel**—Conflicting reports on status of work marked revival recently of long-discussed plans for an eight-mile-long tunnel under famous Mont Blanc. The tunnel would carry motor traffic and transmission lines for electric power.*

Tunnel Scheme ....

France—A long-discussed plan for an 8-mile vehicular tunnel under Mont Blanc, near the Italian-Swiss border was revived in a somewhat confusing manner recently, with a leading Italian proponent of the scheme and the French government in apparent conflict over status of the work.

In an interview given to newspaper men in New York City, County Dino Lora-Totino di Cervinia, of Turin, an Italian engineer, described the project, and said that work on it was already under way. Count Lora-Totino said the project—which would include provision for carrying electric power transmission lines in addition to motor traffic—would cost about $14,000,000, and would be about 8 miles long. It would provide quick access by automobile to France, Italy and Switzerland (see accompanying map). The Italian engineer told newsmen that "hundreds of men" armed with picks and shovels were already at work burrowing through the 15,781-ft. mountain.

Checking the story, *Engineering News-Record's* Paris bureau said that a spokesman for the French Ministry of Public Works denied that construction of the tunnel had been discussed with the French government—pointing out that French cooperation would be essential to completion of the work. The spokesman indicated that France feels it has a tremendous job of reconstruction on its hands at present, and is not willing to divert men and materials to such a project at present, though it may do the work in the future.

Planning ....

Mexico—An administration-sponsored 6-year program for irrigation and public works that will involve the expenditure of more than $1,500,000,000 was announced recently by Adolfo Orive Alba, head of the Ministry of Hydraulic Resources.

The new ministry has taken over the duties of the old National Irrigation Commission, of which Mr. Orive Alba was director, and several additional functions previously assigned to other governmental agencies. These functions include: Health engineering (formerly under the Health and Welfare Department), entrusted with distribution and supervision of drinking water supplies; flood control (previously assigned to the Ministry of Communications and Public Works), and generation of electrical power wherever complementary to irrigation projects.

The main features of the new plans will include acceleration of completion of all projects (including 12 flood control and irrigation dams on which more than $50,000,000 has already been spent) started under the previous administration, and the inauguration of a number of projects, ranging from a $50,000,000 dam on the Rio Fuerte in Sinaloa State that will open about 200,000 acres to irrigation, to tiny structures to irrigate as few as a hundred acres at a cost of less than $1,000,000.

Sweden—The British Housing and Town Planning Association said recently it would sponsor tours of Sweden during the next year for some 1,400 town-planning **specialists and others interested in housing and planning. A thorough study of Swedish efforts along town-planning lines is promised.**

Bridges . . . .

England—If there is to be a postwar race in long-span bridge building, England is already in the running with the Ministry of Transport's proposed crossing of the estuary of the Severn River north of Bristol, as first announced in these pages July 4, 1946, vol. p. 4, and illustrated here by an architect's rendering. Joining England to industrial South Wales, as shown in the accompanying map, the proposed bridge will furnish a modern traffic link in an area now served only by ferries. The bridge will have a main span of 3,000 ft. and suspended side spans of 1,000 ft.; its towers will be 450 ft. high. Planned to accommodate 4,000 vehicles per hour on four traffic lanes, it will also provide a 120-ft. shipping clearance. Just west of Bristol is Brunel's famous Clifton suspension bridge over the Avon River gorge, whose span of 702 ft. established a record when it was completed in 1864. Now, only a few miles away and 80 years later, the 3,000-ft. Severn suspension span will be the third longest span in the world and the longest in Europe. Foundation investigations are under way, and extensive model tests of the superstructure will soon be undertaken in a special 52-ft. long wind tunnel to be built at the National Physical Laboratory. Design engineers for the bridge are the consulting firms of Mott, Hay and Anderson, and Freeman, Fox and Partners.

Transport . . . .

China—The Ministry of Communications of the Chinese National Government has started reconstruction of the main runway of Lunghwa Airport, Shanghai's chief commercial airfield. The present macadam surface will be covered by a layer of concrete 12 to 14 in. thick, and the runway will be extended to a length of 6,000 ft. and width of 100 ft. Later work at the airport will include new taxiways, hangars and other structures.

Completion of the runway will give Shanghai the semblance of an all-around air traffic center, officials believe. At present, fully loaded 4-engined planes are not able to land safely at Lunghwa.

Venezuela—The Venezuelan government, in a year-end report, said that since it came to power in October, 1945, it has spent $26,500,000 on roads and $12,500,000 on airfield construction throughout the country.

Sweden—In a bill recently introduced in the Riksdag, the Swedish government has asked for appropriations to cover construction of a new airdrome at Lake Halmsjon, north of Stockholm, to supplement Bromma airport, which now serves the city. The government asked $21,860,000 to cover initial stages of construction, and estimated that another $2,240,000 would be required for a second-stage development.

India—Mysore State, in southern India, is now at work on a public works program that includes construction of 300 miles of concrete roads at a cost of $6,000,000, plus construction of some 2,000 miles of village and county highways and other rural roads.

Russia — Russia has "practically completed" reconstruction of the double-track Moscow-Kharkov-Rostov-Prokhladnaya Railway, 1,150 miles long; and the Moscow-Leningrad Railway, a line 350 miles long, government agencies have announced.

Standards . . . .

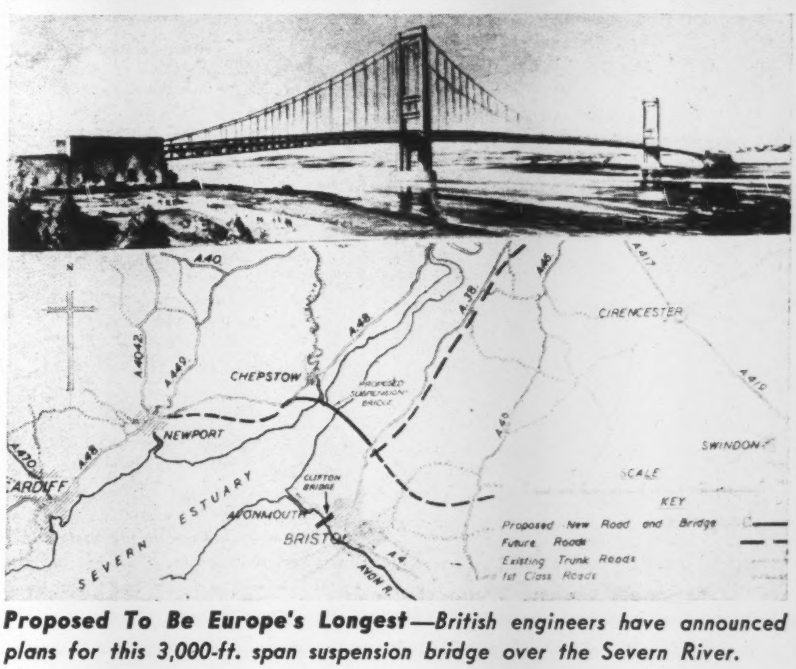
The United States has become the first country to ratify the convention setting up the 25-nation International Organization for Standardization (*ENR* Nov. 21, 1946, Vol. p. 684) according to a recent announcement by P. G. Agnew, vice president and secretary of the American Standards Association. Action was taken at a recent meeting of directors of ASA, and Mr. Agnew said he was advised by the United Nations Standards Coordinating Committee (which remains in existence pending establishment of permanent ISO headquarters at Geneva, Switzerland) that the U. S. acceptance was first to be received.

Miscellany . . . .

French Equatorial Africa — The United States Plywood Corp. and the Compagnie Francaise Du Gabon, have entered into an agreement whereby the U.S. organization will engineer and supervise the erection of one of the world's largest plywood mills here. "Exceptionally fine" local timber will be utilized as source of supply for the new mill, officials said.

Iran—The first contingent of a private mission of American engineers is expected to arrive in Teheran soon to assist the government in surveying a huge development program for which it will ask a World Bank grant of about $250,000,000. The projects considered include irrigation and water supply works, canals, school and hospital construction, and considerable industrial construction.

The Morrison-Knudsen Company, of Boise, Idaho, has been employed by the government to make a four to six months survey of the projects and report on their feasibility.



***Proposed To Be Europe's Longest**—British engineers have announced plans for this 3,000-ft. span suspension bridge over the Severn River.*

Navy begins work on special hangar to test aircraft electronic devices

Facilities for testing under installed service conditions is aim of unique structure now being built at Patuxent base

Testing of electronic devices under installed service conditions in all types of Navy aircraft will be possible on a scale never before attempted when the Bureau of Yards and Docks completes a test hangar now under construction at the Naval Air Test Center, Patuxent River, Md.

The hangar is electronically shielded, and will have complete facilities for individual testing on any aircraft from the smallest fighter to the largest type plane.

Of steel-frame design, the hangar will be roofed by arch trusses of 300-ft. span, and extending beyond the truss supports at either side will be offices and shops 37 ft. wide. The depth of the hangar proper is about 180 ft., and a projection, 62 ft. wide and nearly 80 ft. long, will extend outward from the back of the structure on the center line. This projection will accommodate the nose of large planes undergoing test, and its use, rather than an increase in the depth of the hangar proper, will permit a large saving of both materials and funds.

Other novel features incorporated in the design include the use of double doors for the main entrance. The outside set are the customary type and may be closed whenever desired. The inner set consist of a shielded framework construction that can be closed during tests to keep out electronic disturbance, while at the same time providing ventilation and light. Above these doors, a canopy door will be provided so that any type of plane tail may pass freely in and out of the hangar.

The concrete floor is designed to support a 120,000 lb. wheel load at a tire pressure of 100 psi., adequate for the largest planes, since they will be tested without cargo.

Special problems slow work

The hangar will not be finished until late in 1947, because of the extra-ordinary precautions that must be taken in connection with shielding the building. To obtain accurate results with the delicate tests on radar and other equipment, it is necessary that the inclosure be entirely free of electronic interference—or at least that the small amount of disturbance be kept constant.

To meet this demand, a shield of galvanized metal wire mesh will be installed around the entire hangar inclosure in such a manner that there will be no break in its continuity at any point. Some idea of the size of the task in installing the mesh may be gained from the fact that about four miles of soldering will have to be done in bonding all the joints in the shield. The electronic insulation will be secured to the steel framework by means of 2x4-in. kiln-dried nailing strips impregnated with paraffin.

In the concrete floor, two layers of wire will be laid and joined in the same manner. Where it is necessary to have breaks for doors, the shield will be joined by bronze spring contacts.

Fine-mesh wire used

The fine mesh wire was chosen for the shield because of its relative economy in comparison with galvanized steel or copper, and because it permits ventilation through the inner set of doors, as well as light.

Severe problems will also be encountered in installing the various services required. Water pipes, for instance, must be installed with care and bonded to the shields, so that no disturbance may penetrate through them. Since electric light fixtures create disturbances, the lights will be installed with the mesh fastened to them in such a way that all disturbance will be above the shield. Below the fixtures, however, ¼-in. mesh will be used instead of ⅛-in., to permit the passage of more light.

The lighting is especially important because there will be no windows in the hangar. This design was decided upon because it would have been necessary to have breaks in the shield to gain access to windows in the roof of the hangar structure.

Another problem was caused by the automatic sprinkler system which was originally planned for installation above the shield. However, it was found that the wire mesh would distribute and dissipate heat so effectively that an unusually high temperature would be necessary to set the sprinkler in operation. Therefore, the actuating devices will protrude below the shield, but will be bonded to it.

In addition to the main shielded space in the hangar, there will be shielded inclosures in seven of the rooms. These compartments will have double shields, one several inches inside the other, of solid sheet copper. In these inclosures it is planned to carry on smaller scale tests of the most exacting and delicate type, requiring that an absolute minimum of electronic disturbance be permitted to exist.

The $2,000,000 project will be completed under two contracts. The hangar itself is being built by the Tuller Construction Co., of Red Bank, N. J. C. J. Langenfelder & Son, of Baltimore, are constructing the outside facilities, including parking apron, taxiways and access roads.

ANOTHER CIVIL ENGINEER-SENATOR

Since publication of the article about Senator George W. Malone of Nevada (ENR Jan. 2 vol. p. 9) a letter has been received from Maj. Gen. Philip B. Fleming, Administrator of the Federal Works Agency, calling attention to the fact that there is another civil engineer in the upper house of the Congress—Senator C. Douglas Buck of Delaware, who attended the University of Pennsylvania engineering school for two years and was chief engineer of the Delaware State Highway Department for seven years.

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Clay, engineer general, gets top European job

Lt. Gen. Lucius D. Clay, an engineer officer who has served recently as deputy commander of United States forces in the European theater, last week was named commander of those forces, succeeding Gen. Joseph T. McNarney.

General McNarney, who succeeded Gen. Dwight G. Eisenhower as European Theater Commander in December, 1945, will become Army Air Forces representative for the Joint Chiefs of Staff on the Military Staff Committee of the United Nations, effective March 15 of this year.

General Clay, a 1918 graduate of West Point, served as director of materials, Army Service Forces, from 1942 to 1944, after a long career with the Corps of Engineers. Early in 1945, after serving as deputy to the Director of War Mobilization, General Clay was appointed to General Eisenhower's staff as a deputy in charge of civil affairs in Germany. As deputy to General McNarney, for the last year he has been handling complex diplomatic dealings with Russia and other allied nations, and observers in Washington said last week that the new post is more a change in title than in the actual duties he has been performing.

American Society of Civil Engineers begins 94th annual meeting in N.Y.

Opening sessions see seating of Edgar M. Hastings as president—Awards of honorary membership and other honors made

EDGAR M. HASTINGS
Takes office as ASCE president

Edgar M. Hastings, of Richmond, Va., ince 1922 chief engineer of the Rich- ond, Fredericksburg and Potomac ailroad, took office as president; and onorary memberships were conferred n four distinguished engineers, as the merican Society of Civil Engineers pened its 94th annual meeting in New ork City Jan. 15.

Mr. Hastings, who has spent his pro- ssional life in railroad engineering, cceeds W. W. Horner, consulting en- ineer of St. Louis, Mo.

Four honorary members

Honorary memberships were pre- nted to the following:

A. W. K. Billings, recently retired resident of the Brazilian Traction, ight & Power Co. A native of Omaha, eb., Mr. Billings was graduated at arvard University in 1895, receiving onors in physics, mathematics, and gineering. His career has been largely the field of electric power and trac- on here and abroad. Brazil recently warded him the National Order of the outhern Cross for his work in develop- g hydro-electric resources in the Sao aulo-Rio de Janeiro area (*ENR* Aug. 5. 1946, vol. p. 202).

Charles B. Burdick has devoted s entire engineering career of 51 years the service of cities and corporations matters of water supply, flood relief, d sewerage. Long a member of the hicago firm of Alvord. Burdick & How- n. Mr. Burdick has done work for veral hundred cities in 38 states and r several foreign countries.

Albert P. Greensfelder, for many years ad of the Fruin-Colnon Contracting o., St. Louis, Mo., is eminent in both e engineering and contracting fields. mportant projects on which he has en engaged include the St. Louis ater basins, intake tower and tunnel; ree reinforced concrete viaducts for e city; the St. Louis railway terminal; d $10,000,000 of industrial plants.

LeRoy K. Sherman, Chicago consul- nt, is an expert in hydraulics and hy- ology. He is originator of the unit drograph, which since 1932 has been idely used in flow studies. From ctober, 1933 to June, 1935, he was a ember of the Technical Board of eview of the Public Works Adminis- ation, Washington, D. C. From 1934 to 43 he was consultant on the basin of e Great Lakes to the Water Resources Committee of the National Resources Planning Board.

Other awards

Prizes and medals were presented as follows:

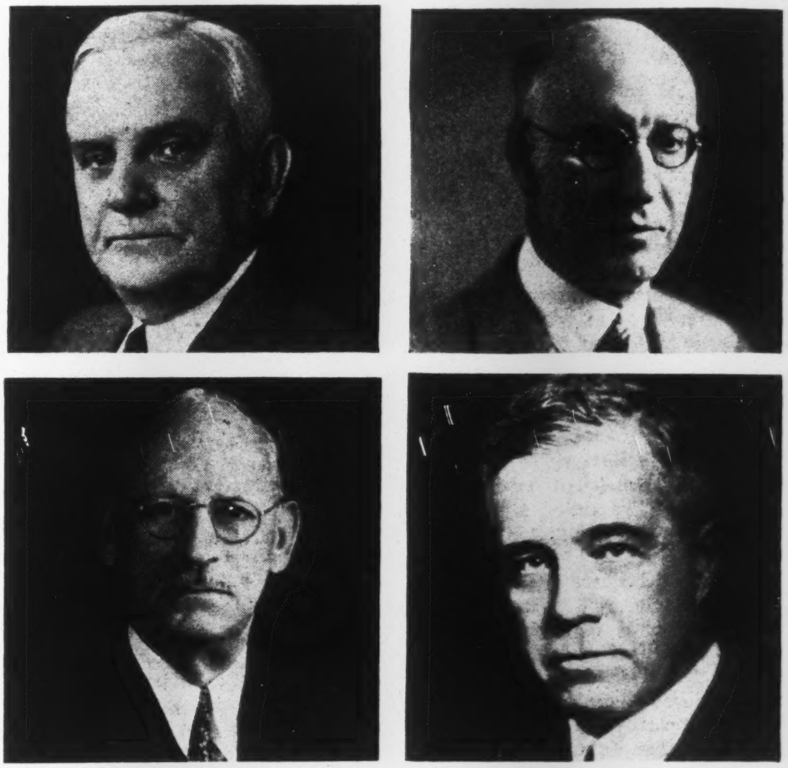
The Norman Medal, established in 1872 by the late George H. Norman, was given to Karl Terzaghi, authority on soil mechanics, who was recently appointed professor of the practice of civil engineering in the Harvard Graduate School of Engineering, for his paper on Stability and Stiffness of Cellular Cofferdams."

Gail A. Hathaway, special assistant to the Chief of Engineers, Washington, D. C., received the J. James R. Croes Medal for his paper on "Military Airfields—Design of Drainage Facilities."

James B. Hays, project manager at the Upper Holston project of the Tennessee Valley Authority, was recipient of the Thomas Fitch Rowland Prize for one of two papers on checking underground flow. His paper was entitled "Unusual Cutoff Problems—Deep Solution Channel, Kentucky Dam, Kentucky".

The James Laurie Prize went to Lewis A. Schmidt, Jr., civil engineer of Chattanooga, Tenn., for the second paper on undergroud flow at dams, which was

(Continued on following page)



New Honorary Members—*Recipients of honorary memberships in the American Society of Civil Engineers were the four men above. They are: Top, (left), Charles B. Burdick and L. K. Sherman; lower (left) A. P. Greensfelder and A. W. K. Billings.*

OTC ends virtually all priority aids

The last remnants of the wartime priority system which ruled the distribution of basic materials throughout the war, were virtually wiped out by the new Office of Temporary Controls early in January.

Specifically, amendment to Priorities Regulation 28 now limits issuance of priority rating to three units: (1) Items needed to fill military orders that cannot be deferred without injury to the defense program or to health and welfare of enlisted personnel; (2) items needed to provide essential utility services, or, in emergencies, to eliminate serious hazard to life, health and safety; and (3) material and equipment required to maintain or increase production of building materials now in short supply.

Scrapped by the amendment is all remaining government priority aid to business for production materials, maintenance and repair, and capital equipment or construction materials needed to start or maintain an individual plant or business or to alleviate individual hardship. Veterans starting new businesses and small firms are expected to be hardest hit by this action, since they will be forced to compete with established organizations for materials in short supply.

The action restricting use of priorities (CC) ratings leaves only the limited MM rating for the military and the emergency Triple-A rating for civilian production still in effect. The HH housing rating was abandoned with the collapse of the Wyatt housing program in December and the appointment of the new Office of Temporary Controls (*ENR* Dec. 19, 1946, vol. p. 823).

Currently outstanding CC ratings, even those for uses now denied government aid, will be honored until used up.

ASCE meeting opens

(*Continued from page 7*)

entitled "Unusual Cutoff Problems—Flowing Water in Underground Channels, Hales Bar Dam, Tennessee."

James Hobson Stratton, recipient of the Arthur M. Wellington Prize, which was established by *Engineering News-Record* in 1921, is supervising engineer for the Panama Canal with rank of colonel. He also wrote on military airfields, taking as his subject design and construction problems.

C. O. Clark took the Collingswood Prize for Juniors with a paper on "Storage and the Unit Hydrograph." He is a specialist in the field of river hydraulics.

John S. McNown, well known in the field of hydraulics, is winner of the J. C. Stevens Award. In 1943 he went to the University of Iowa as research engineer in the Institute of Hydraulic Research and assistant professor of mechanics and hydraulics. His winning paper, was "Lock Manifold Experiments."

George K. Leonard won the Construction Engineering Prize. He has been prominently identified with the Tennessee Valley Authority since its inception. Many of its dams were under his supervision as project manager. His paper was entitled "Lining the Eight-Mile Apalachia Tunnel."

Other officers seated

First-day activities included the seating of two new vice-presidents, and seven new directors. New vice-presidents are Gail A. Hathaway, Hyattsville, Md., and Ralph B. Wiley, of West Lafayette, Ind. New directors are: Harland C. Woods, of Buffalo, N. Y.; Roy W. Crum, of Washington, D. C.; Lewis M. Gram, Ann Arbor, Mich.; Samuel A. Greeley, Chicago, Ill.; Daniel V. Terrell, Lexington, Ky.; Walden L. Malony, Spokane, Wash., and D. L. Erickson, Lincoln, Neb.

Papers presented at the technical sessions, Jan. 16-8 will be reported in detail in the Jan. 23 issue of *Engineering News-Record.*

◆

Plan $4 million hospital for Phoenix, Ariz.

Undertaking what has been called the greatest private building program in the history of Arizona, St. Joseph's Hospital at Phoenix has announced plans for a new 350-bed hospital center, to be located on a 10-acre plot between Third and Fifth Avenues on Thomas road. Actual start of work will be preceded by a public campaign for a $4,500,000 fund.

The modernistic plant will be centered around a 7-story main hospital structure and will include a number of outbuildings, a 4-story nurses' home, landscaped grounds and an abundance of parking space, hospital authorities announced.

With the exception of wartime bases and plants built in Arizona during the last six years, the structure will be the largest single piece of private or institutional construction in the state.

Reject all tenders on Clark Hill dam work

All four bids received January 6 for construction of Clark's Hill Dam, near Augusta, Ga., (*ENR* Dec. 12, 1946, vol. p. 775), were rejected almost immediately, Col. Paschal N. Strong, Savannah District Engineer in charge of the project, said last week.

Colonel Strong said that "too much uncertainty" had been reflected in the bids, and announced that he was immediately mailing additions to the original specifications that would provide that the government would furnish the cement and stone for the huge project. New bids will be opened Jan. 17.

Cost of the dam, exclusive of the power house and equipment, had been estimated at a total of $18,100,000. The low bid, by the Morrison-Knudsen Co., was $24,670,216.

◆

N. Y. Life to finance industrial expansion

The New York Life Insurance Co. and the Continental Can Co. have completed an agreement under which the insurance company will play a major role in financing new manufacturing facilities required for Continental's postwar expansion program.

The agreement, just announced by both companies, provides that New York Life will purchase several new plants which are under construction or will be built to increase Continental's production of containers and will then lease the properties to Continental for a term of years.

The amount of the financing will probably be in the neighborhood of $10,000,000, it was indicated. The initial purchase by New York Life under the plan was made just before the year end, it was said, and involved a plant now under construction on the Pacific Coast.

The announcement is of special interest since this is among the first of such transactions completed by a life insurance company in the industrial field under the new provisions of the New York State Insurance Law enacted in 1946. Similar investments have previously been reported in the merchandising field. The New York Life indicated that it regarded the present transaction as the forerunner of further equity investments in the industrial field, although it does not plan to limit such investments to this field alone.

The new plants will be designed by Continental's engineering department and construction will go forward as rapidly as government regulations and other factors permit.

CAA announces details of $70 million federal-aid airport program for 1947

Program covers smaller airports only—Announce new regulations governing administration of funds allotted to local units.

A 1947 Federal Aid Airport program calling for expenditures of more than $70,000,000 by the federal and lesser governmental units for the construction and improvement of some 800 airports was announced last week by the Civil Aeronautics Authority.

The program was formulated under terms of the Federal Air Airport bill signed early in 1946 (*ENR* May 16, 1946, vol.p. 763) and calls for total expenditures of $33,900,000 by the federal government and $37,693,000 by other participating governmental units. As released by T. P. Wright, CAA administrator, the program is an expansion of preliminary figures made public last August (*ENR* Aug. 15, 1946, vol. p. 199).

At the same time, Mr. Wright announced that regulations for administering the act had been approved on the basis of a series of conferences held through October in an attempt to clarify and liberalize the rules (*ENR* Sept. 19, 1946, vol.p. 349).

Covers smaller ports

The program announced by Mr. Wright covers only smaller airports—those designated by CAA as Class 1, 2 and 3—since the act requires CAA to submit to Congress a list of proposed larger airports at least two months in advance of the fiscal year in which they are to receive funds. It was impossible to comply with this requirement for the current fiscal year, the official said, but it is expected that a proportionately larger part of the funds that will be made available for use during 1948 will be spent on Class 4 and larger airports, to bring the program into balance.

As now proposed, the 1947 program calls for construction of 232 new Class 1 airports of a type suitable for personal flying; 109 new Class 2 airports, suitable for personal flight traffic and local commercial service; 44 new Class 3 fields, suitable for use of smaller transport planes, and three new seaplane bases. Projects for improvement of certain existing airports call for 82 Class 1, 177 Class 2 and 153 Class 3 fields.

Regulations approved

A sliding-scale formula, somewhat modified over original proposals, will govern administration of the funds, Mr. Wright said.

Under this formula, the federal government will pay 50 percent on all project costs up to $5,000,000, and the federal share on project costs of more than $5,000,000 will decrease by 5 percent with each additional $1,000,000 of cost up to $11,000,000. The minimum federal contribution, regardless of airport size, will be 20 percent.

Bar exclusive contracts

Another rule provides that municipalities accepting federal aid under the act may not make exclusive contracts on the sale of gasoline, repair services and charter operations. Although landing fees for private airports are frowned upon by CAA, such fees are not prohibited.

The final text of the regulations is now being printed in the "Federal Register" and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at a cost of 15 cents, CAA headquarters said.

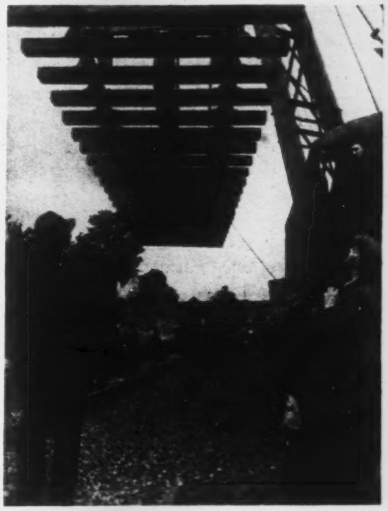


Photo by British Combine

Prefabricated Track*—England's Southern Railway recently announced adoption of a method employing 60-ft. prefabricated sections of track for all renewals throughout the system. The sections are assembled completely at special yards, carried to the site on flat cars, and put in place with a crane. Congested traffic conditions, and anticipated 13½ percent savings in direct costs dictated the adoption of the system of preassembling track replacements.*

Plan coordination of air, road plans

Joint conferences of representatives of the Public Roads Administration and the Civil Aeronautics Administration are scheduled for during the next six weeks to formulate plans for coordination of federal-aid highway facilities with the national airport program.

The meetings will be attended by Public Roads division and district engineers, and Civil Aeronautics airport superintendents and district engineers. Fred E. Schnepfe, chief of the liaison division of the PRA, will represent the Washington office.

The first meeting of the series was held Jan. 7 at New York City, and the second and third at Washington, D. C., and Atlanta, Ga. Other meetings are scheduled at Fort Worth, Tex.; Kansas City, Mo.; St. Paul, Minn.; Chicago; Denver, Colo.; Portland, Ore.; and San Francisco, Calif.

Under provisions of the Federal Airport Act of 1946, Congress has appropriated $45,000,000 for the fiscal year 1947 for airport construction and improvements in the U. S., Alaska, Hawaii, and Puerto Rico. Of this sum, $30,822,750 has been apportioned among the states by CAA for actual construction. The federal funds will be matched by sponsors of airport projects.

During recent months, CAA engineers completed a survey of airport needs in all parts of the country and on the basis of this survey, a revision of the national airport plan has been prepared, officials said. A priority list of essential projects for the present fiscal year has been set up by CAA, and this list should be made public at an early date. Construction of top priority projects is expected to start about April 1.

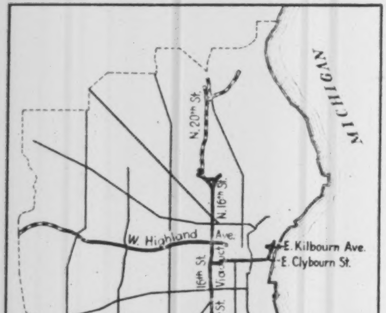
Development of new airports or expansion of existing ones will, in many instances, require construction or relocation of highways to serve the airport terminals. The Federal-aid Highway Act of 1944 provides that federal highway funds may be used for reconstruction or relocation of highways on the federal-aid system that give access to airports constructed or extended subsequent to passage of the act. This provision also extends to the use of federal highway funds for relocation of any highway on the federal-aid system, made necessary by airport improvements.

Milwaukee considers huge traffic-easing plan

An elaborate report, suggesting construction of expressways as new traffic arteries in the metropolitan area of Milwaukee, Wis., made jointly by the State Highway Commission of Wisconsin and local governmental units in cooperation with the U. S. Public Roads Administration, was made public recently.

A summary of the 74-page report and the conclusions drawn from it follows:

The Milwaukee metropolitan area, with a population of more than three-quarters of a million, now lacks traffic routes continuous from one part of the area to another that do not tranverse heavily congested business streets or streets with impediments to traffic flow.



To Speed Traffic—*Milwaukee, Wis., city officials are considering plans for expressways shown on the map to ease the flow of traffics through the business district.*

All such routes at present are surface streets which generally have vehicular and pedestrian cross traffic; interference from parking maneuvers; interfering public transit vehicles; vehicular movements across lanes with moving traffic; driveways in and out of abutting properties; and no physical separation of vehicular traffic moving in opposite directions.

Expressway favored

A 6-lane expressway that would carry traffic volumes in excess of 50.000 vehicles per day, is favored in the report, engineers pointing out that it would take 14 to 18 lanes of surface streets to serve that same traffic. In addition, the handling of this traffic on expressways would result in a very great relief to cross traffic and traffic on adjacent streets, whereas the widening of existing streets would result in no such relief and would increase the cross traffic problem because of wider intersection.

It is by no means certain that the provision of 18 traffic lanes on surface streets would be less costly than the construction of a 6-lane expressway, the report added. Surface street widening, if it extends beyond building lines, frequently involves very large right-of-way expense.

No figures on total cost of the expressway were included, but the report said that approximately $7,000,000 could be made available to the local governments comprising the area for a 3-year modernization program, of which about $6,000,000 would be contributed as a joint federal-and-state-aid fund, and $1,000,000 by the local units.

Seek authority for toll span over Savannah River

Authority will be sought from the Georgia General Assembly soon to construct toll bridges over the Savannah River to join a projected South Carolina highway over a route that would cut the distance between Savannah and Beaufort from 75 to 35 miles, according to Frank M. Oliver, counsel for the Savannah Motor Club.

It is estimated that the two necessary bridges over the Savannah and Back rivers, with the necessary approaches, would cost about $6,500,000.

Authority sought would be in the form of an amendment to the city charter which would provide for a Savannah River Bridge Commission, which would be authorized to construct the bridges and finance them.

New highway commission appointed in New Mexico

The new governor of New Mexico, Thos. J. Mabry, has appointed a new State Highway Commission, as follows: L. E. Ruffin of Albuquerque; P. J. Vidal of Gallup; and M. R. Prestridge of Alamogordo.

The commission re-appointed B. G. Dwyre as state highway engineer. Mr. Dwyre formerly served in that capacity from January, 1939, until May, 1943, and was re-appointed on Oct. 12, 1946, upon the resignation of F. G. Healy.

To ask bids at once on big N. Y. truck terminal

The Port of New York Authority said last week it will seek bids at once for preliminary construction on a $5,000,000 motor-truck terminal to be built in the area bounded by Washington, Greenwich, West Houston and Spring streets, Manhattan, near the Holland Tunnel. It will be a 2-story structure, 1,000 ft. long and 160 ft. wide.

The terminal will handle the great bulk of over-the-road shipments pouring into the metropolis, and serve as a clearing house for commodities trucked in from adjacent states. It will reduce traffic congestion in the city by confining trailer and van-type trucks to one area.

To be known as the Manhattan Union Truck Terminal, the structure is the first of a series of such terminals planned for erection in the New York and New Jersey metropolitan area.

To handle 2,000 tons daily

On the first floor will be a platform 800 ft. long and 80 ft. wide, equipped with the two heavy cranes and a circular chain conveyor towing trailers for loading and unloading.

There will be bays for 144 trucks and the platform will be able to handle more than 2,000 tons of freight a day. The first floor will also contain storage space, a restaurant, a service station and a rest room for drivers. One-way ramps will wind from the street to the second floor, which will have trucking company offices, a repair shop and parking space for seventy-five tractor trailers. The parking area will also be utilized as a landing deck for helicopters.

Officials estimated that the terminal will save annually about 1.830.000 miles of travel by large size trucks in the streets of Manhattan. It will replace many of the 200-odd terminals scattered through Manhattan.

D. J. Fair, road chief for Kansas, resigns post

D. J. Fair, director of the Kansas State Highway Commission since April, 1939, last week submitted a letter of resignation to Governor Andrew Schoeppel.

Mr. Fair, who has been ill for the last several months, gave that as the reason for his resignation.

During his term as director Mr. Fair launched an extensive highway improvement program which added hundreds of miles of new road to the state system.

Greater road building totals for 1947 seen as states report big programs

Forecasts for coming year's work show many road bureaus preparing heavy schedules, reflect 1946 accomplishments

As first-of-the-year forecasts and summaries were released by various state highway departments last week it become evident that 1947 will be another record-breaking year for highway construction, as was 1946 (*ENR* Jan. 9, Vol. p. 27). Reports from seven typical states show:

Georgia—This state plans to continue its high rate of highway construction during 1947, with $28,368,744 available for contracts on which bids will be received during the early part of the year. So far, plans and specifications have been drawn for projects calling for 634 miles of paving, about 50 miles of grading, and 114 bridges.

During the last three months no contracts have been let because of the Georgia law that prevents the letting of contracts three months prior to the end of the governor's term of office. With the recent death of Gov.-Elect Eugene Talmadge the political situation in Georgia has been in a turmoil, and should the naming of a new governor be long delayed, highway construction may be held up until spring.

Last year a total of more than $27,000,000 in highway contracts was let.

The projects as programmed for 1947 include federal-aid and state's matching funds, together with the balance of 1946 apportionments not yet placed under contract.

Massachusetts—Joseph N. Cairnes, Massachusetts Public Works Commissioner, Boston, Mass., has announced road construction plans for part of 1947. Work will be started on six miles of Route 6 from Truro to Eastham on Cape Cod, including elimination of dangerous curves on the Provincetown Road, at a cost of $600,000. On the 1947 schedule are 23 federal-aid jobs which will aggregate a total of $18,725,000. Among these is widening Cambridge Avenue from Cambridge Common to the Arlington town-line at a cost of $650,000, and a seven-mile link to be constructed from Route 20 south of Sturbridge to the Connecticut State-line at a cost of $1,120,000.

Washington—A proposed 12-year highway development program recommended to the 1947 Washington state legislature by Clarence B. Shain, state director of highways, calls for construction estimated to cost $130,077,500.

The largest single item is a 4-lane North-South superhighway to reduce the distance between Seattle and Portland, Ore., by nearly 20 miles at a cost of $38,650,000. The first section, from the state line to Olympia, would be built in the next two years for $22,975,000.

The program calls for 152 miles of highways with access only by cloverleaf approaches. Approximately 61 miles of controlled-access highway is included in the stretch between Olympia and Vancouver, Wash. The superhighway would have 10.8 mi. of freeway through Seattle, completely inaccessible for its entire length, except for cloverleafs at each end.

Also recommended is a 2-mile tunnel through Snoqualmie Pass which would cost over $35,000,000. This is not included in the $130,077,500 program because it would not be paid for out of highway funds but would be financed through revenue bonds to be paid off by a 50-cent toll. The East-West highway at either end of the tunnel would be improved at a cost of $17,340,000.

EDITING NEEDED

It was a story dear to the hearts of cartoonists and critics of government during WPA days some years ago, but our Georgia correspondent insists it happened the other week on a highway job near Moultrie, Ga.

A warning sign for motorists said:

DANGER SLOW MEN WORKING

Embarrassed highway officials edited the sign a few days later, by inserting a comma after the first word, and deleting the second word.

Other highway construction in the 12-year program would straighten out virtually every primary highway in the state and provide for much improvement also in secondary roads.

Texas—At the meeting of the Texas Highway Commission on Jan. 23-24, the contract for the initial rural section of the $5,000,000 superhighway connecting Houston and Galveston will be let, DeWitt C. Greer, Texas State Highway Engineer, has announced. The superhighway will have four separate lanes. This initial rural section will be nine miles long, costing about $600,000. It will run toward Galveston, beginning at the Galveston-Harris county line.

North Carolina—The highway commission during 1946 contracted for the paving of 12,904 miles of roads for an all-time record, but costs were 60 percent over prewar levels and totaled $32,622,911, according to a report just issued by Chairman A. H. Graham, who said inflationary conditions cost the state more than $2,528 per mile for bituminous surfacing, retreatment, soil cement or stabilization of roads.

During the year, the 16,000 county road bridges remained the most critical problem due to lack of material, equipment and labor, Graham said with bridge construction costs double that of pre-war years. Over $2,500,000 was spent on new equipment during the year, but Graham pointed out that equipment which had worn out during the war years had not been replaced.

Arizona—This state, which spent over $7,000,000 on roads in 1946, expects to accelerate its highway building program early this year to the maximum of its financial resources to take full advantage of federal aid also.

Kentucky—At the end of the year the state highway department reported that 1946 was a banner year for road building, with 192 projects finished or in process of being done, at a total cost of $18,185,800.

Maintenance operations since last April 1 have cost more than $6,000,000. They included surfacing, resurfacing, sign posting, patching and other upkeep. About $3,750,000 of the appropriation for state aid on county roads has been spent or encumbered, the report said.

Commenting on the department's work, Highway Commissioner J. Stephen Watkins said Kentucky's road system has in process of completion hard surfacing and resurfacing on a total of 1,999 miles.

Oklahoma—H. E. Bailey, chief highway engineer, says the highway department estimate of cash on hand for construction of farm-to-market roads Dec. 31, when the law providing for the extra 2-cents-a-gallon tax expired, was $2,922,067.

That amount will be matched by federal funds which would afford nearly $6 millions in available funds for construction under the state-federal and county farm-to-market, program.

More than 70-farm-to-market projects are ready for letting.

MEN AND JOBS

Col. W. W. Wanamaker, district engineer, Garrison District, explains characteristics of soil formations at site of Garrison Dam to Vincent B. Smith (left), western editor of Engineering News-Record. The formation is a clayey soil with which 75,000 cu.yd. rolled-fill embankment will be built.

Donald L. Snow, a member of the engineering staff of the Pan American Sanitary Bureau, is now serving as acting secretary of the Inter-American Association of Sanitary Engineering—a newly formed organization that will cater to the interests of the 21 American republics.

Dr. Ing. Karl Imhoff has returned to Essen, Germany, where for many years he carried out important water supply and sewage treatment work for the Ruhr District and developed the sewage settling and reduction tank bearing his name. During the last year he was in private practice at Schondorf, Bavaria, American Occupied Zone. He has been working on the production of methane gas from stable manure which he thinks will be a contribution to industrial recovery in Germany and other countries short of fuel oil and gasoline. Dr. Imhoff's new address is Robert Schmitt St. 8, 22a, Essen, Germany, British Occupied Zone.

Gordon R. Williams, hydraulics engineer, has joined the Knappen Engineering Co., New York City. After leaving the Office of the Chief of Engineers, where he was for two years (1943-1945), he went to the district engineer's office, Providence, R. I. When the latter office was abolished last September, he went to the reorganized New England Division as head of the flood control section. He is a graduate of M.I.T.

James G. Wallace, former city manager at Kenosha, Wis., has been appointed executive engineer at Fargo, N. D.

Wilbur S. Smith, former head of the South Carolina highway department's division of traffic engineering, and **Wortham W. Dibble** have opened an engineering office to study traffic problems at Columbia, S. C. Smith, holder of B.S. and M.S. degrees from the University of South Carolina, is now associate director of the Bureau of Highway Traffic at Yale University. Dibble is a 1936 graduate of The Citadel. He became assistant traffic engineer with the South Carolina highway department in 1937 after attending the Harvard University Bureau of Street Traffic Research. He was recently discharged from the Army Engineers with the rank of major.

L. Abbett Post has been elected executive vice-president of the American Institute of Steel Construction, succeeding **Robert T. Brooks** who retires after 11 years in that capacity. Mr. Post has been on the institute staff since 1942, for the last years as assistant executive vice-president. He is a graduate of Stevens Institute of Technology, and was formerly an official of Post & McCord, steel contractors.

Col Albert B. Jones, in charge of the district engineer's office in Jacksonville, Fla., for the last three years, retired Dec. 19. Colonel Jones was previously engineer for the New York district, and prior to that handled harbor and river work in Washington. He was connected with the Engineers' department for 28 years.

Warren C. Bell recently became field engineer with Geo. S. Brockway, civil and consulting engineering firm of West

Mayor Harold T. Johnson of Roseville, Calif., turns first spadeful of earth for foundations for steel transmission lines of the Central Valley Project's Oroville ex-Sacramento transmission line. Looking on are Ben W. Creim, regional power director for the Bureau of Reclamation, and Irving C. Harris, who is bureau construction engineer.

Unusually fine early winter weather has made possible ahead-of-schedule work on Parkway Village Homes—housing development for United Nations employees in Flushing, New York City. N. R. Petersen (left), construction manager for George A. Fuller Co., explains work to L. F. Booth of Fuller's home office, and Don King, editor of Civil Engineering.

Charles Senour, head of the engineering division (left) and Col. J. R. Hardin, deputy to the president of the Mississippi River Commission, and Col. R. G. Lovett, district engineer, Vicksburg, watch final dredging operations in the newly-completed Hopedale Bend cutoff near the mouth of the Arkansas River. This project is one of many under way for river control.

Palm Beach, Fla. A native of Jackson, Miss., he goes to Florida from the Washington, D. C., area, leaving a position as assistant project engineer with the PRA on Naval access road grading, drainage and paving. He has been connected with the PRA for several years in various capacities including construction inspector on the Pentagon Building road network; an assignment as party chief on construction stake-out of the Rio Hato project of the Inter-American Highway in Panama; and force account construction supervisor on the Natchez Trace Parkway in the state of Mississippi.

Jewel L. Hardy, city manager of Sherman, Tex., has resigned to become vice-president of a road machinery firm at Albuquerque, N. M., to operate in the Texas Big Bend district and in New Mexico. Other members of the firm are **B. L. Layne,** New Orleans, La.; **D. Davison** and **J. H. Hill,** Dallas, Tex.; and **Don Elliott,** Sherman, Tex.

Philip H. Carlin, recently project analyst for the Philadelphia City Planning Commission, has moved to Detroit, Mich., as specifications engineer for Smith, Hinchman & Grylls, Inc., engineers and architects.

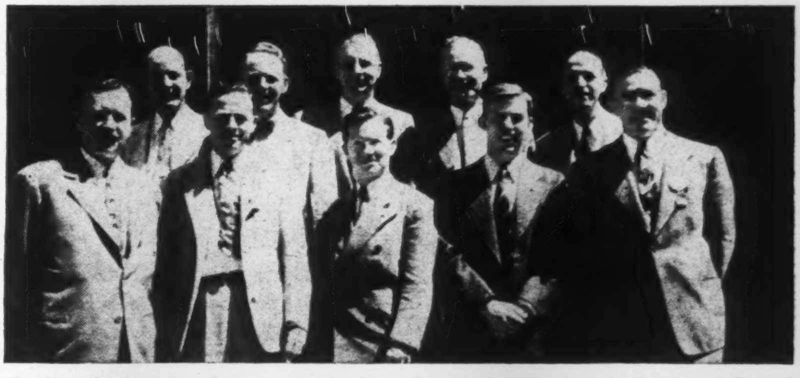
Allen Janssen, dean of the University of Idaho School of Engineering, and **T. Matt Hally,** state highway director, have been appointed to the Idaho state board of engineering examiners. Janssen, who will serve until May 24, 1953, succeeds J. E. Buchanan, president of the University of Idaho. Hally will serve until May 24, 1951, in the post formerly held by Raymond J. Briggs of Boise, Idaho, whose term expired last May.

Appointment of **Einar Larsen** as chief project engineer in charge of the engineering development of the Eagle Mountain ore deposits for Kaiser Steel has been announced by Kaiser Engineers, Inc. Larsen joined the Kaiser organization in 1941 and was chief engineer during the wartime construction of Richmond Shipyards Three and Four. Later he was general manager of Yard Three. Prior to 1941 he was engaged in road and bridge construction.

Charles Wattleworth has been appointed Jo Daviess County superintendent of highways, Galena, Ill. He replaced **Oscar G. Hiveley,** who had been acting in that position in addition to serving as Stephenson County superintendent of highways. Hively will retain the latter job.

Present and accounted for at the recent Los Angeles, Calif., meeting of the American Association of State Highway Officials were, left to right: Thomas H. MacDonald, commissioner, Public Roads Administration; Charles H. Purcell, California Director of Public Works; Fletcher Bowron, mayor of Los Angeles, and M. J. Hoffman, Wisconsin State Highway Commissioner.

Harold Lehmkuhl (left) is job superintendent on construction of a pier at Edgewater, N. J., for Seatrain Lines, Inc. Jack Malcolm, center, is general superintendent, and A. C. Elliot is general foreman for J. Rich Steers, Inc., contractors on the $600,000 project.



Guiding the destinies of cooperative health and sanitation programs in South and Central America are these U. S. engineers of the Institute of Inter-American Affairs. First row, left to right, are: A. J. Kranaskas; James C. Hanes, John K. Chattey, E. G. Wagner and J. L. Dallas. Second row: J. D. Caldwell, Millard E. Smith, C. I. Sterling Jr., Samuel T. Drew and Guy E. Griffin.

Study joint sewer plan for Calif. communities

Officials of Santa Clara County and San Jose, Calif., now have under consideration a comprehensive report envisaging the expenditure of several million dollars for a sewage disposal plant for a group of communities bordering on upper San Francisco Bay.

The report, submitted by Charles Gilman Hyde, professor of sanitary engineering at the University of California and George L. Sullivan, dean of the college of engineering at the University of Santa Clara, surveyed the entire county and San Jose in particular in what was called the most comprehensive study ever made of the area.

The report offered the city of San Jose four alternatives for improving its disposal system, ranging in cost from $1,500,000 to more than $3,000,000. The recommended alternative, which would cost about $1,500,000, would be built through cooperation of San Jose and several other northern counties and communities and would include use of the existing outfall sewer, construction of additional trunk line sewers and of a disposal plant providing both primary and secondary treatment.

Among other points brought out in the report, it was estimated that the city of San Jose will reach a population of 135,000 by 1980, and the county's population will rise from its present estimated 270,000 to 348,000.

Alternative plans included: Construction of a primary treatment plant for San Jose alone, at a cost of about $3,150,000; construction of a plant for the city alone providing both primary and secondary treatment, and cooperation with other communities in the northern part of the county in the construction of a primary plant large enough to serve all the cooperating communities at a total cost of about $5,260,000.

◆

Begin $10 million Boston water tunnel project

Three shafts have been sunk, and excavation is under way on the Boston end of a new $10,000,000 high-pressure water supply tunnel between Weston and downtown Boston, Mass., the Metropolitan District Water Supply Commission said last week.

The tunnel, 12½ ft. in diameter and 5½ miles long, will have a maximum depth of 300 ft. below ground surface. Its completion will more than double water pressure in metropolitan Boston, and its use will greatly increase water supplies in Boston and a dozen other municipalities on the western and southern edges of the city.

Stanley M. Dore, assistant chief engineer for the district, said that the new tunnel will have a rated capacity of 200 mgd. Completion of the tunnel—which was planned before the war—will eliminate the present Chestnut Hill pumping station, and make full pressure of the Norumbega Reservoir in Weston available for the distributing mains of Greater Boston.

Increased pressure will be possible because between difference in height of the Chestnut Hill and Norumbega, "the latter is 270 ft. above sea level, while the Boston supply is only 130 ft.

The project will take about three years for completion.

◆

Plan huge building work at Miami University

The University of Miami (Fla.) announced last week that it had received approval of a $4,969,000 loan—largest such loan ever approved by the Federal Housing Administration—to finance a major expansion of its campus facilities.

The funds will be used to provide housing for some 2,000 veteran-students and their families, and for work on the university's 250-acre campus. New classroom facilities, modernistic dormitories and an administration building are among the projects planned.

Oregon to set up own airport building program

Rather than attempt to match the entire $7,000,000 the state could obtain in federal funds under the proposed CAA airport construction program, the Oregon State Board of Aeronautics will ask the 1947 legislature for $1,000,000 for the development of a statewide system of airports. This would limit the program, with federal funds, to $2,000,000, to be expended over a period of five years.

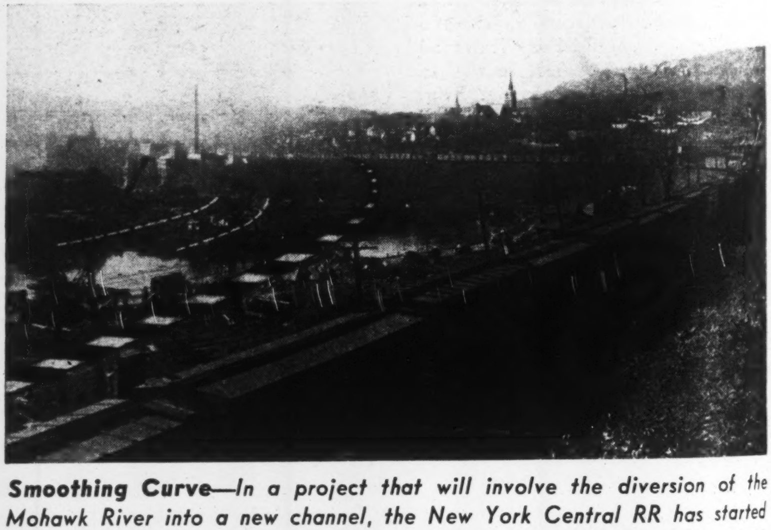
◆

St. Louis OK's $12 million water improvement plan

The St. Louis, Mo., Citizens' Bond Issue Supervisory Committee last week approved $12,000,000 for a city-wide waterworks improvement program, but deferred final approval of a portion providing for erection of a $2,000,000 electric power plant.

Action on the power plant section of the program was postponed because city officials at present are studying the feasibility of using the plant as the source of street lighting current, as well as for driving the water pumps to be installed at the Chain of Rocks station.

The water system improvements, to be financed by a 1944 bond issue, would include construction of the city's principal water pumping facilities at an expanded Chain of Rocks plant.



***Smoothing Curve**—In a project that will involve the diversion of the Mohawk River into a new channel, the New York Central RR has started work to eliminate the sharp "Gulf" curve in its tracks at Little Falls, N. Y. Dotted line at left indicates channel to be blasted for stream, and checkered line indicates where new section of four-tracked right of way will be located. Straightening will move the track about 340 ft. southward from the apex of the curve, and permit through trains to pass the point without reducing speed. Contractor is Walsh Construction Co., of Davenport, Iowa.*

N.Y. builders, unions, stabilize pay, eliminate overtime in new agreement

Unprecedented pact grants 25 to 40 cent raises, seen eliminating "piracy"—Arizona, Illinois workers also get raises

The wages of an estimated 200,000 building trades workers represented by AFL unions in New York City, were stabilized last week in what observers said was an unprecedented employer-union contract.

Principal provisions of the compact, according to a joint statement by union and employer spokesmen, were elimination of overtime work at premium rates (except in real emergencies) and wage increases ranging from 25 to 40 cents an hour.

Spokesmen said that the increases will bring the earnings of virtually all classes of skilled mechanics to about $100 for a 40 hour week.

At the same time, Arizona general contractors and building trade unions, meeting at Phoenix, announced a general 15 cent an hour increase in wages, and journeymen carpenters at Decatur, Ill., received a 12½ cent an hour increase from local contractors. Several other new contracts, virtually all granting wage increases, have been reported over the past several weeks, notably at St. Louis, Mo., and Atlanta, Ga.

Renounce some overtime

The New York unions, most of which now work under a 7-hour work day agreement, agreed to renounce their claim to double time for the eighth hour of work. The joint statement, issued in behalf of the 30 participating unions, and 21 employers associations, emphasized that one of the principal objectives of the new agreement was to do away with overtime abuses that have made it impossible for builders to calculate their potential costs with any degree of accuracy, and that had encouraged "job jumping" and other "under the table" wage deals. Both groups admitted that many plans for 1947 building projects in New York City had been put on the shelf in recent months by investors and industrialists who were fearful of a runaway labor market.

In many instances, the joint statement said, workers were paid $159.75 for 53 hours of productive work under previous agreements. The new agreement modifies a wage agreement reached by the two groups last February 11, at which time the union members received general wage increases of 15 to 25 cents an hour. Under the new schedule, plumbers, steamfitters, hoisting engineers, slate and tile roofers, asbestos workers, elevator constructors, boilermakers, structural iron workers and stone cutters, glaziers, carpenters, lathers, cement masons, and ornamental iron workers will all be raised to $2.50 an hour. Other crafts will receive comparable increases. Common labor, not covered in the agreement, has asked increases of 25 cents per hour—from the present $1.25 to $1.50.

Heavy construction trades, such as steel workers and dock builders, are expected to get the same rates. Bricklayers and plumbers will work at $2.50 per hour for a 7-hour day, but hope to get the eighth hour at double-time, making $2.81 per hour for 8 hours. Electricians already work on a 6-hour day, with time-and-a-half up to 8 hours, but their rate still averages about $2.25 per hour.

At the same time, the Building and Construction Trades Council announced that it planned to open its ranks to large numbers of veterans for apprentice training.

Arizona building trade unions and general contractors, announcing a new agreement embodying a 15 cent an hour increase to all members of six basic construction crafts—including common labor, teamsters, carpenters, cement finishers, iron workers and operating engineers, said that the new agreement would insure that there would be no work stoppages before May 1.

The announcement, however, made no reference to recent controversies over application of a recently approved state constitution amendment which prohibits closed shop agreements in the state. The labor and employer groups said that they were continuing negotiations on other phases of the wage problem, and expected to bring in a report and final agreement previous to May 1.

The raises will affect approximately 15,000 members of the six unions in Arizona.

Illinois carpenters get raise

Journeymen carpenters in the Decatur, Ill. area last week received a wage raise of 12½ cents an hour, in a contract signed between the carpenter's union and Decatur contractors. The increase brings wage rates up to $1.75 per hour and will affect between 300 and 350 carpenters in Macon County.

In addition, unions and employers agreed to hold periodic meetings through the year to discuss common problems.

University of Washington announces expansion plan

A $9,207,000 expansion program for the University of Washington at Seattle to increase facilities for veterans' education has been approved by the Civilian Production Administration's Facilities Review Committee in Washington, D. C.

Ten structures, including a $3,000,000 health and science building, a fisheries school, six other class room buildings, a student union building, and a new administration building are included in the construction for which CPA has given the green light.

The program has been planned for a number of years and is particularly urgent now because of the tremendous influx of veterans to the university. Present enrollment of more than 15,500 —60 percent veteran—represents an increase of 50 percent over the prewar peak and 250 percent over the wartime enrollment level. A student body of 20,000 is expected to be enrolled by next fall.

Most of the construction is expected to begin within the next three months and to be completed in the spring of the year 1948.

Property owners to build their own sewer system

Invoking a seldom-used right granted in a 1911 improvement bond act, property owners in Riverside, Calif., have assumed responsibility for the construction of a sewer installation. The job is thus taken away from the Chorak Construction Co., Los Angeles, which had been awarded the contract on a low bid of $14,019 after city officials opened bids on the work recently.

The property owners assumed the contract under a clause in the 1911 act which provides that property owners may individually or collectively assume responsibility provided that 75 per cent of the affected owners express that desire within ten days after the contract is awarded.

Heading the list of property owners who filed notice of their intention was Walter Roeder, head of the Pipeline Construction Co., who signed as owner of 235 ft. of the affected property. Roeder said that although the property owners officially had taken the contract at the low bidder's figure, his company would build the sewer line at a cost about $280 under the low bid submitted by the Chorak organization.

Random Lines from an editor's notebook . . .

. . . in which is detailed the program for a community attack on stream pollution now under way in Allegheny County, Pa.

Something new in the expanding attack on stream pollution and the problems of sewage disposal is developing at Pittsburgh, Pa.

The Allegheny County Sanitary Authority—largest of its kind in the United States—has seated itself behind a battered (and borrowed) desk, rolled up its collective sleeves, and gone to work. It proposes a huge program to transform the county's typical municipality-by-municipality and industry-by-industry attack on pollution into a unified metropolitan system. No official statement of costs of this program has been made public, pending complete data, but it is apparent that the program may run as high as $100,000,000 worth of work.

The authority proposes to do all the detail engineering work for communities involved, prepare design plans and specifications, supervise construction and in some cases operate the new system—and it proposes to do all this without adding a single cent to the tax burden of the municipalities involved. Before they're through, Chairman John F. Laboon and his board of engineers and directors may find themselves writing new chapters to Pennsylvania's Utilities Law—but they don't expect to be writing any tax measures.

Background data

All this needs some background for proper perspective.

Allegheny County, near the western end of Pennsylvania, is an area of some 750 sq. mi., roughly triangular in shape, cut by the Monongahela and the Allegheny rivers, which join just below Pittsburgh's "Golden Triangle" to form the Ohio. In this area, in some 127 communities ranging from relatively tiny municipalities to metropolitan Pittsburgh, live about 1,500,000 persons.

In this area, too, are some of the largest manufacturing plants in the world—the mammoth mills and smelters from which emanate a good share of the world's metal products. Additionally, innumerable mines (mostly situated on the many small streams that feed the two big rivers) produce coal. Other industries abound. Excepting for an outlying fringe of townships, the county is rugged, rocky and with little area suitable for agriculture.

Over the years, sewage disposal in this area "just grew"—and not very properly. Industries and mines poured their acid and debris-filled waste into the nearest stream-bed. Some towns installed treatment systems, a great many did not. With the passing years, most of the streams became little more than open sewers.

Meanwhile, the communities had set about developing some 48 local water supply systems, involving the use of streams in this area.

Trouble was inevitable. With increasing population and industrial activity, some attempts were made to alleviate pollution, lest the streams become entirely unusable, and the fish and wildlife disappear completely.

State takes a hand

As early as 1905, the state passed the Purity of Waters Act, and warned local officials to install sewers and sewage treatment works. Few took the order seriously and little was done—the law lacked teeth, and it applied only to domestic sewage, taking no account of industrial wastes. This law was finally revoked in 1937, and a new anti-pollution act passed, but acid mine waste and coal silt remained exempt until late in 1944.

In April, 1945, the state legislature strengthened its law by passing the Municipal Authorities Act, which permitted formation of corporations to perform service to benefit the people of the Commonwealth—including the construction and operation of sewage works, airports, transportation and other facilities. Under this act, such a corporation may "acquire, construct, improve, maintain and operate" such facilities.

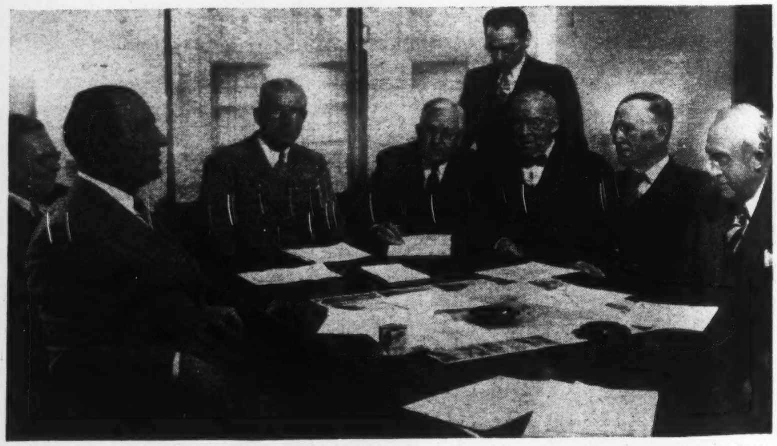
There was still a flaw, however, in that the law required that if such a corporation were formed, each municipality included must have at least one representative on the board of directors. In Allegheny County, that would have meant a board of at least 127 members.

Aggressive action starts

Thus, when the State Sanitary Water Board began to take aggressive action in May, 1945, and notified some 102 of the county's municipalities and 90 industries that they must eliminate pollution without delay, the county's commissioners took action to incorporate a "sanitary sewage authority" themselves, so that its board of directors has only five members and a much more manageable program.

After a canvass of interested municipalities, the authority was formed in March, 1946, with Mr. Laboon as chairman. The City of Pittsburgh lent office and laboratory space, some furniture, and money, the state and federal governments provided some funds, and the organization proceeded to get down to business.

As organized, the authority has no taxing powers. It it at present financed by a $500,000 fund advanced in part by the three agencies above. It will finance its operations not by tax levies, but by bond issues—basing the bonds on expected revenues from "sewer rental charges" to be made to the communities and industries served. Mem-



***Direct Sanitary Work**—Assembled for a policy meeting are the men who direct the affairs of the Allegheny County, Pa., Sanitary Authority. Left to right, they are: David Olbum, secretary; Paul S. Aaron, office manager; John F. Laboon, chairman; Ellis E. Bankson, managing engineer; Leon Wald, chief, legal division (standing); Cornelius D. Scully, former mayor of Pittsburgh; Charles A. Finley, and W. B. Rodgers, treasurer.*

bership in, or use of the facilities of the authority is completely voluntary.

It works like this:

The Borough of Carnegie, for example, is notified by the state that it must provide adequate sewage disposal facilities. Borough officials lay their problems before authority engineers, and under separate agreement to defray costs, the authority—acting in its capacity of engineer—will draw up plans to alleviate the situation.

If the borough approves these plans, a new agreement is signed, under which the authority undertakes to build the facilities as recommended out of its own funds (issuing bonds for the purpose). The borough may agree to collect for the authority the necessary rental charges to repay costs of construction, or the authority may evolve some method of collecting revenues directly from the users of the facilities.

In this last statement lies a very great possibility, Mr. Laboon says.

May operate systems

If the authority undertakes to operate sewerage systems, it will relieve the municipalities of all maintenance and operation charges. Since this would also relieve the necessity of levying taxes for sewers, equivalent taxing power would become available for financing other projects—thus increasing the financial ceilings on the community's credit. Among other things, it would also make possible prompt installation of sewer service to housing developments and industrial plants beyond the corporate limits of any community, since there would be no question of jurisdiction.

The authority is independent in action, but subject to annual appointment of one of its five board members by the county commissioners, and its operations are subject to the scrutiny of the Court of Common Pleas and the state attorney-general's office.

First step in the authority's program was to get public acceptance. More than 85 percent of the county's residents, in answer to questionnaires, heartily approved. Secondly, a staff—now including about 40 engineers, chemists and office workers—was gathered and set to work.

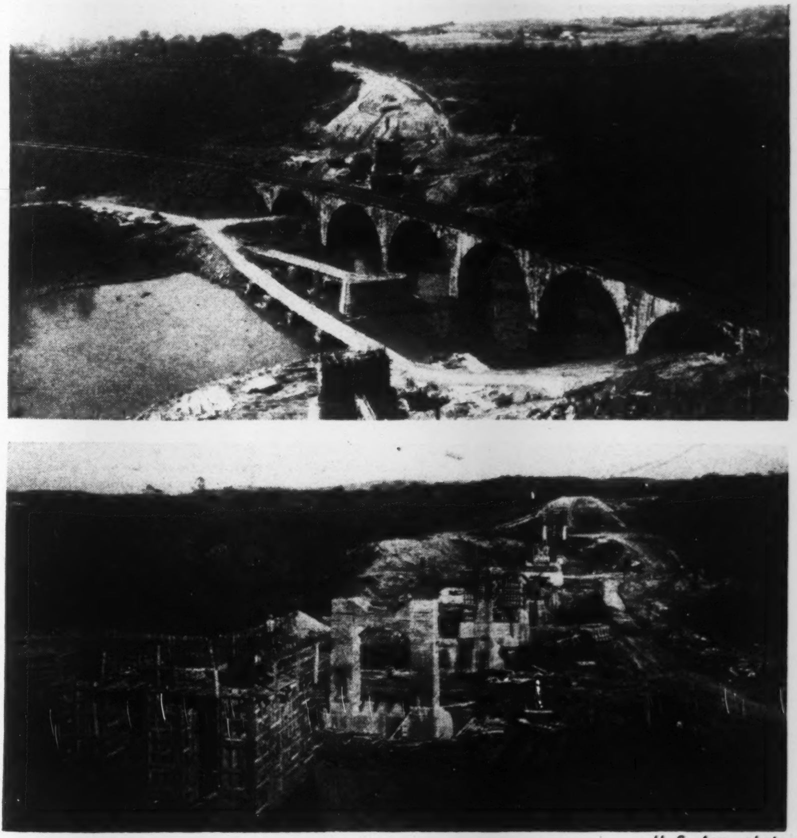
On the principle that no action should be taken until a unified, workable program has been devised, studies are now under way which will take a year to complete. Not until procedures have been developed will there be any attempt to initiate construction projects. For the moment, the only construction contemplated is a number of small weirs for measurement of flow in various sewers (some 33 have been built to date), and some needed warehouses.

The principal problem, from a legal point of view, is the assurance of collection of revenues to back the authority's bonds, and further legislation may be asked for this purpose.

Under existing law, the authority may collect the revenues itself—by direct billing to the users of its facilities, but considers this a cumbersome process at best. It may also enter into agreements with municipalities served, whereby the municipality would levy special taxes or pro-rate the charges to individual users within its limits, or may pay the total charges out of surplus tax collections. However, legal recourse by the authority, in the event that a user refuses to pay the charges, only permits it to secure a lien on the property—and this had not proved to be an effective means of securing the charges.

Although no basis of charges has yet been made public, it is contemplated that they will be made on a uniform basis—a home-owner paying the same rate whether he lives within a mile or thirty miles of the nearest plant; the same principle will apply to industry. Industrial user charges will also include fees for abnormal biochemical-oxygen-demand and suspended solids content, as well as chlorine demand when chlorination of the effluent is demanded by the state.

In general, according to Mr. Laboon, the authority is an experiment in public cooperation, and in sensible management of a complex, but common, problem for all citizens of the area. . . . *EEH*



U. S. Army photo

Railroad Moves Over*—Incident to the construction of Conemaugh Reservoir, one of seven being built by Army engineers to protect Pittsburgh, Pa., from flood damage from the Conemaugh River, is the relocation of some 16 miles of Pennsylvania Railroad track. Top photograph shows an old stone arch bridge now in use about a mile downstream from the damsite and piers for a new structure under construction. Lower photo shows work on abutments and piers for the Social Hall Bridge, about three miles west of Blairsville, several miles upstream from the dam. A short distance east of the graded roadbed visible at upper left at the new track will join the existing line, near Blairsville. Contractors on this work are Hunkin-Conkey Construction Co. and Shofner, Gordon and Hinman.*

Chicago revises hotel fire code provisions

New amendments require enclosure of shafts, stairs—General building code reaches consultant stage.

Amendments to the city building code adopted by the Chicago city council on Dec. 16 require enclosure by July 1, 1947, of all hotel elevator shafts and stair wells with fire resistant materials. The code revisions apply to all hotels more than four stories high and to all others of more than two stories with sleeping accommodations for 25 persons above the second floor.

Amendments of this character had been under consideration since the disastrous LaSalle Hotel fire on June 5, 1946. Questions had been raised as to the legality of amendments which require large expenditures by owners of hotel buildings approved by the city at the time of their construction as conforming to the contemporary building code. Following the Winecoff Hotel fire in Atlanta December 7, Mayor Edward J. Kelly urged the city council to enact amendments at once and let their legality be tested later in the courts.

Under the new amendments, all hotels must enclose elevator shafts and stair wells with fire resistant materials. For fireproof and semi-fireproof structures, the material must have a fire resistant rating of one hour. In buildings of timber construction, the material must have two-hour fire resistance.

In the fireproof or semi-fireproof hotels, doors opening into the stairways or elevators must be of material with 45-min. fire resistance. For other structures, the material in doors opening into stairways or elevators must be made of material of fire resistance not less than that of wood 1¾ in. thick.

Consultants to be called

Within a very few weeks Chicago will engage a staff of consultants to participate in the drafting of a new building code for the city, according to an announcement made by John Merrill, director of revision of the code, at a luncheon meeting on January 8 sponsored by the Chicago Association of Commerce and the Metropolitan Housing Council.

Since last October, Mr. Merrill, member of the architectural firm of Skidmore, Owings and Merrill, Chicago, has been directing research on which the new code will be based.

To avoid the frustrating limitations of the existing Chicago building code, drafted in 1932-34, the new code will be designed as a functional and not a specification document. In Mr. Merrill's opinion, the present code was the best in the country when it was adopted, but, like all specification codes, it has rapidly become obsolete. According to the director, certain parts of the present code will be preserved, although they will be rewritten wherever the meaning can be more clearly expressed.

Charles E. O'Rourke dies; author and educator

Charles Edward O'Rourke, 50, head of the structural engineering department in the school of civil engineering of Cornell University and author of well known books on engineering subjects, died at Ithaca, N. Y., Jan. 10.

Born in New York, Professor O'Rourke was graduated from the Cornell school of civil engineering in 1917. He served as a second lieutenant in the Army in the first World War, returned to Cornell in 1919 as an instructor in engineering, and became an assistant professor in 1923.

With L. C. Urquhart, a former Cornell faculty member, he collaborated on three widely-used textbooks in structural engineering, and with C. A. Pierce and W. B. Carver, also of Cornell, on handbooks of formulas and tables. He was the author of "General Engineering Handbook," "Design of Flat Slab Doors," "Design of Concrete Structures," "Stresses in Simple Structures" and "Handbook of Formulas and Tables for Engineers."

VA hospital program starts at Buffalo, N. Y.

Ground for the new 1,000-bed hospital to be constructed at Buffalo, N. Y., by the Army Engineers for the Veterans Administration was broken on Jan. 14.

Greene and James of Buffalo and Eggers and Higgins of New York City are joint architect-engineers for both the Buffalo and Albany hospitals, which are similar in design. The Buffalo project will consist of a basement and ten stories, and it will be of steel and concrete construction with the exterior a combination of stone and brick.

The Buffalo hospital is part of a $600,000,000 hospital construction program, undertaken by the Corps of Engineers for the Veterans Administration.

The Army Engineers have rejected all bids on the proposed VA hospital at Minot, N. D. The low bid for this 150-bed structure was $3,927.000. It was submitted by Charles C. McCloskey of San Francisco. This total compared with the government estimate of $3,128,190. No steps will be taken to readvertise for bids until it is decided whether or not to award the contract for the Grand Junction, Colo., hospital for which bids were opened in December. The low bid on the Grand Junction project, which is almost identical with the Minot design, was $3,463,800 as compared with the government estimate of $2,910.000. McKee Construction Co., El Paso, Tex., was the low bidder.

Revise guaranteed-market contract

The guaranteed market contract—made available under the Veterans Emergency Housing Act to spur production of new-type building materials and prefabricated housing—is being revised to conform with changes made in the 1947 housing program, according to Frank R. Creedon, new housing expediter.

The revision is being made, Mr. Creedon said, to bring more potential producers of new-type building materials and prefabricators into housing.

New contracts will contain three main changes:

1. Previous contracts contained a maximum selling price for the "packaged" home sold by manufacturer or dealer. In view of the general price decontrol on materials and completed houses, these provisions are being deleted. The contracts, however, will still be based in part on the prospect of substantial construction economies through mass production. Although no maximum selling price is to be carried, homes produced will be subject to the same requirements as those built by conventional methods.

2. The provisions dealing with the producer's obligation to meet production schedules are changed to provide that, if the producer is unable to meet the schedule because of causes beyond his control, he will continue to have the benefits of the guarantee.

3. The sales clause will be changed to permit the producer to sell to holders of housing permits or to middlemen who agree to resell under conditions insuring ultimate sale to holders of such permits.

Details of the new contract are now being worked out by the office of the housing expediter in conjunction with the Reconstruction Finance Corporation, and the new contract will be used as the basis for any new guaranteed market agreements entered into.

Charge U. S. "usurps" St. Louis city airport

City to seek $6½ million damages from government for refusal to return complete port area to city control for municipal use

In a public statement which observers said was perhaps unprecedented for the vigor of its language, the city of St. Louis last week formally denounced federal government agencies for continued postwar use of the Lambert-St. Louis municipal airport, and presented a $6,514,000 bill for damages and "uncompensated services" rendered at the field during the last war.

The charge and the estimate of damages was contained in a 143-page report prepared by a subcommittee of the Municipal Airport Commission, and it was announced that the report had the "full knowledge and consent" of the city administration.

Calling the situation at the Lambert-St. Louis airport unique, the report said that instead of building new airports at St. Louis or expanding the old ones for crucial war activities, the government took over the only commercial airport belonging to the city of St. Louis, adding special facilities to the airport for greater wartime service. These included the construction of an $11,000,000 plant for the Curtiss Wright Co. on the north side of the airport; construction of a naval training station on the south side of the field; an Army hangar on the west side, and the turning over to the Army of control of major second-floor space in the main administration building at a cost of 20 cents per year for rental.

"After the close of war activities, reversing the federal policy elsewhere," the report said, "the government retained its hold on the city's commercial facilities under war leases. This state of affairs threatens to strangle the city's air program since the most valuable areas on the field are involved and the remaining choice areas are literally squeezed in between them." The committee added that the airport is the only site for development of a major airport immediately available, since construction of an airport at Columbia Bottoms, proposed some time ago, is "some six to ten years in the future."

The principal complaint was directed at the refusal of the government to give St. Louis a free title to the Curtiss-Wright plant, and the Navy Department's refusal to permit the city to use a portion of the plant for servicing commercial air transport except "on terms the city finds completely unsatisfactory."

"In returning the several tracts of the city's lands, with the improvements constructed thereon, the federal government will not be 'giving' anything to the citizens of St. Louis," the report concluded. "The land was purchased by bond issue money, voted and paid by the citizens of St. Louis. The buildings were not constructed with some mysterious money created by Washington. They were built with money from the taxpayers."

The city's bill of damages includes $1,500,000 listed as cost of operating the wartime airport; about $1,200,000 listed as "fair rental" from Curtiss-Wright, the Navy and the War Department; $796,000 as landing fees due from Army and Navy, and $250,000 for physical damage to runways.

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Park improvement plans set for Milwaukee County

The Milwaukee County, Wis., board of highway commissioners voted to include $9,944,000 worth of park projects in its tentative 10-year public works improvement program.

These improvements would be in addition to a $1,000,000 public boat marina and a $2,000,000 zoo, both previously included in the tentative program.

The projects cover improvements to virtually every park and parkway in the county, including $950,000 earmarked for "improvement and construction of new neighborhood parks" and $250,000 for a new swimming pool.

Hawaiian construction firms announce merger

A merger of the Hawaiian Contracting Co., Ltd., with the Hawaiian Dredging Co., Ltd., was effected recently when a merger agreement was filed with the territorial treasurer.

The action consolidates the personnel and equipment of the two companies into the Hawaiian Dredging Co., Ltd., which, according to its officials, will enter the small and residential construction field, while also carrying out larger projects.

Under the agreement the Hawaiian Dredging Co., Ltd., will discharge all obligations and commitments of the contracting company and will perform all contracts undertaken by it.

The Hawaiian Dredging Co., Ltd., was organized in 1902, and has played an important part in the building of most of Hawaii's harbors, waterfronts and drainage projects.

With the outbreak of the last war the dredging company teamed up with other national construction concerns to form the Pacific Naval Air Base Contractors organization which completed a network of naval air bases throughout the Pacific.

The contracting company was busy during the same period as one of the group of contractors known as Hawaiian Constructors building flying fields and other big projects for the Army in Hawaii and elsewhere in the Pacific. It completed the Volcano highway on the island of Hawaii and has done much other work.

N.Y. airport group offers new plan

A lower-cost alternate to the Port of New York Authority plan for rehabilitation, completion and operation of New York City's airports (*ENR* Jan. 2, vol.p.10) has been presented to city officials by the newly-formed New York City Airport Authority.

The new plan envisages the spending of less money than proposed by the Port Authority, and the return of substantially more to the city. Title to the airfields would be retained by the city, and financing would be done outside the city's already strained debt limit.

Based on plans prepared by Downer, Green and Carrillo, engineers for the city on Idlewild Airport; Harrison and Abramovitz, architects; and Clarke, Rapuana and Holleran, consulting engineers; the airport authority expects that $70,000,000 will be spent to complete the Idlewild field to the 6-runway stage. In addition, $12,000,000 would be spent on LaGuardia Field and for the operation of Floyd Bennett Field—now partially in the hands of the U. S. Navy. Financing would be provided by issuance of revenue bonds.

When the bonds have been liquidated, the authority said, the three airports would revert to the city, in such financial condition that they would produce revenues totalling over $5,000,000 annually.

A 42-page report submitted to the city scored the proposal presented by the Port of New York Authority as "one sided" and said the city would be a "sure loser" from a financial standpoint. It advocated completing Idlewild only to a 6-runway stage (the Port Authority recommended seven), and rejected Port Authority suggestions for enlarging LaGuardia field on the ground that the proposed expenditures for this work (estimated at $39,000,000) would not be worth the cost.

The two proposals will be acted upon shortly by the city's Board of Estimate.

OBITUARY

Julian Ashby Burruss, 70, president emeritus of the Virginia Polytechnic Institute, died at Blacksburg, Va., Jan. 4. A civil engineering graduate of the institute in 1898, and holding degrees from Columbia, Chicago, and Hampden Sydney, Dr. Burruss was president of V.P.I. for 26 years, having retired in 1945. Under his presidency the physical facilities of the institute increased from $1,052,000 to $8,500,000.

Roy W. Straley, 57, manager of the Hanover, Pa., municipal water works since 1921, died recently. Prior to his appointment as borough water works manager, he was affiliated with the Conegawo Gas Co.

Allen Grant Seaman, 89, pioneer general contractor of Port Arthur, Ont., died Dec. 28. Sixty percent of the modern buildings in the Port Arthur district were constructed under his supervision.

Joseph S. Hayes, 62, owner and manager of the Hayes-Bell Road Construction Co., Dunkirk, Ind., died Dec. 27, in Bloomington, Ind.

James S. Kelly, 54, of Asheville, N. C., widely known road contractor in Western North Carolina and Kentucky, died Dec. 31. He formerly lived at Hazard, Ky., moving to Asheville in 1922.

Homer Lindsay Currie, 54, civil engineer, died Dec. 31 at Montreal. A graduate of New Brunswick University, Mr. Currie joined the Canadian National Railroad in 1913 and had been supervisor of buildings, engineer of grade separations and office engineer.

George S. Hiland, 50, surveyor and civil engineer in Highland Park, near Dallas, Tex., died Dec. 31.

Archibald Drummond Sharp, 54, building contractor in Ontario, died at Toronto Jan 2. Previous to entering business for himself, he was employed by the Ontario Department of Public Works.

Harry E. Barnard, 72, who was president of H. E. Barnard, Inc., and of the Indiana Sanitary and Water Supply Association, died Dec. 31 in Indianapolis.

Cyril W. Harshman, 83, former Niles, Ohio, road building contractor, and former Trumbull County Commissioner (1933-36), died Dec. 31 at Mineral Ridge, Ohio.

Bert W. Huntoon, 76, civil engineer of Bellingham, Wash., died there Jan. 1. Born in Sacramento, Calif., he was graduated in civil engineering from the Rensselaer Polytechnic Institute at Troy, N. Y., and began practice in Bellingham about 1890. He was elected civil engineer for Whatcom County in 1896 but two years later returned to private practice as engineer for Pacific American Fisheries, a post he held until his death.

Garnet Affleck, 62, district engineer of Manitoba (Canada) Department of Public Works, died Jan. 1. Mr. Affleck entered the service of the Public Works Department in 1916 and supervised in the territory southeast of Winnipeg.

Joseph A. Mauser, 62, retired civil engineer of the New York City Board of Transportation, died in White Plains, N. Y. Jan. 7. He was a graduate of The Cooper Union in 1905.

John E. Allen, 72, principal assistant engineer of the Philadelphia, Pa., Bureau of Engineering, Surveys and Zoning died Jan. 2. Although his principal duties concerned designing and maintenance of the city's sewers and treatment system, he had been active in such projects as the Municipal Stadium and the city's airports. He entered the city's service in 1902.

Martin C. Schwab, 67, consulting engineer, who participated in the rebuilding of Baltimore, Md., after the fire of 1904 died in that city Jan. 2, For years he was consulting engineer for Sears, Roebuck & Co., Chicago.

MAJOR MEETINGS

Associated General Contractors, annual convention, Stevens Hotel, Chicago, Ill., Jan. 27-30.

National Crushed Stone Association, annual meeting, Edgewater Beach Hotel, Chicago, Ill., Jan. 27-29.

Associated Equipment Distributors, 28th annual meeting, Edgewater Beach Hotel, Chicago, Ill., Feb. 13-15, 1947.

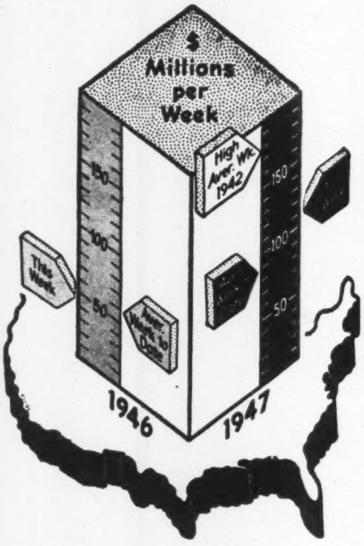
American Concrete Pipe Association, annual national convention, Statler Hotel, St. Louis, Mo., Feb. 23-25.

American Concrete Institute, 43rd annual convention, Netherlands Plaza Hotel, Cincinnati, Ohio, Feb. 24-26.

National Council for Stream Improvement, annual meeting, Waldorf Astoria Hotel, New York, N. Y., Feb. 24-26.

American Society for Testing Materials, Committee Week, Benjamin Franklin Hotel, Philadelphia, Pa., Feb. 24-28.

CONSTRUCTION ACTIVITY



As Reported this week to . . .
Engineering News-Record

CONTRACT VOLUME

Continental U. S. Only
(Thousands of Dollars)

	Week of Jan. 16 1947	Cumulative 1947 (3 wks.)	Cumulative 1946 (3 wks.)
Federal	$1,763	$16,585	$13,452
State & Mun.	15,657	66,517	42,521
Total Public.	$17,420	$83,102	$55,973
Total Private	92,821	179,480	120,674
U. S. Total..	**$110,241**	**$262,582**	**$176,647**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Dollar Volume (Thousands)

Type of Work	This Week	Cumulative 1947 (3 wks.)	Cumulative 1946 (3 wks.)
Waterworks	$2,864	$13,325	$2,681
Sewerage	810	5,092	1,972
Bridges	2,283	5,941	6,359
Highways	8,195	21,821	18,846
Earthwork, Waterways	847	4,806	3,961
Buildings, Public.	2,037	15,313	15,245
Industrial	26,997	45,085	50,041
Commercial ...	61,893	125,904	66,067
Unclassified	4,315	25,295	11,475

Note: Minimum size projects included are: Waterworks and waterway projects, $22,500; other public works, $40,000; industrial buildings, $55,000; other buildings, $205,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1947 (3 wks.)	Cumulative 1946 (3 wks.)
NON-FEDERAL	....	$76,458
Corporate Securities	Current	37,811
State and Municipal	figures	38,647
FEDERAL	not available	158,320
Total Capital	....	$234,778

ENR INDEX NUMBERS

Index Base=100		1913	1926
Construction Cost..	Jan. '47	381.68	183.47
Building Cost......	Jan. '47	288.78	156.11
Volume	Dec. '46	207	91